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ABSTRACT

This publication is a source of marine weather broadcast information in all areas of the world where such service is provided. This publication was designed for the use of U.S. naval and merchant ships. Sections 1 through 4 contain details of radio telegraph, radio telephone, radio facsimile, and radio teleprinter transmissions, respectively. The NOAA Weather Radio continuous broadcasts and Great Lakes marine broadcasts are listed in section 5. In sections 1 through 4 the broadcasts are arranged according to ocean areas. In a particular geographic area, the radio stations providing service for the high sea areas usually are listed first. Each listing is preceded by a three part index number. Following the index number is the name of the radio station and its call sign; next are broadcast times, radio frequencies, and broadcast contents. In sections 1 and 2, the contents are described by a letter code that is explained in the set of notes preceding each section. Throughout the publication, references are made to figures that outline the forecast areas of various countries. These figures follow section 5. The appendix contains supplemental explanatory information. (MR)

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Worldwide Marine Weather Broadcasts

**U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION**

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Section 1. Radiotelegraph Broadcasts

Section 2. Radiotelephone Broadcasts

Section 3. Radiofacsimile Broadcasts

Section 4. Radioteleprinter Broadcasts

Section 5. Weather Broadcasts for the Great Lakes Continuous Broadcasts — NOAA Weather Radio (VHF - FM)

Silver Spring, Md.
July 1977

SE 024 859

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Introduction

This booklet serves as a source of marine weather broadcast information. It is primarily for the use of U.S. naval and merchant ships, but is available to other ships.

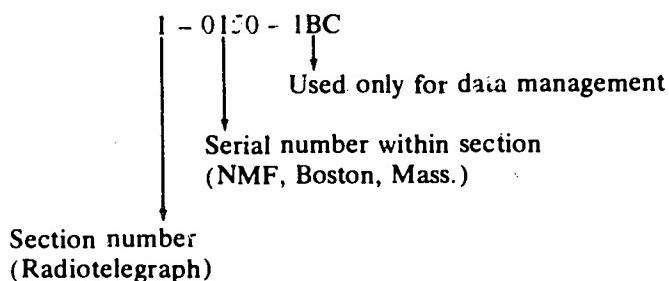
Data processing and electronic photocomposition methods were employed in publishing this edition, necessitating a change in format.

This publication contains information on marine weather broadcasts in all areas of the world where such service is provided. In general, English language broadcasts (or foreign language broadcasts ~~repeated~~ in English) were selected for inclusion in the publication. For areas where English language broadcasts are not available foreign language transmissions are also included.

Details of foreign broadcasts are obtained from World Meteorological Organization Publication No. 9 T.P.4, Volumes C and D, or from information supplied by other countries. Corrections and changes to the broadcast details are distributed by means of the weekly Notice to Mariners issued by Defense Mapping Agency Hydrographic Center.

ORGANIZATION OF PUBLICATION. Sections 1 through 4 contain details of radiotelegraph, radiotelephone, radiofacsimile, and radioteleprinter transmissions, respectively. The NOAA Weather Radio continuous broadcasts (VHF-FM) and Great Lakes marine broadcasts are listed in Section 5.

In Sections 1 through 4 the broadcasts are arranged according to ocean areas. In a particular geographic area the radio stations providing service for the high seas areas usually are listed first. Each listing is preceded by a three part index number. The following explains the index number:



Following the index number is the name of the radio station and its call sign; next are broadcast times, radio frequencies, and broadcast contents. In Sections 1 and 2, the contents are described by a letter code that is explained in the set of notes preceding each section.

Keep in mind that automated printing imposes some limitations on the format. For example, there are instances where footnotes appear on the next page, separated from the rest of the broadcast details.

Throughout the publication references are made to figures that outline the forecast areas of various countries. These figures follow Section 5.

TRANSMISSION OF WARNINGS. If warnings are in effect for a forecast area they will be included in the scheduled weather broadcast. When warnings are issued by a weather forecast office most radio stations use the following procedure: upon receipt of the warning message an announcement is made on 500 kHz (A1), 2182 kHz (A3), and 156.8 MHz, channels 16 (F3), followed by transmission of warning on the corresponding working frequencies. The warnings are broadcast again at the end of the first silent period following their receipt as well as at the end of the first silent period which occurs within the next radio watch hours of single-operator ships.

APPENDIX. In addition to an abridged explanation of synoptic and analysis codes, the appendix contains an explanation of abbreviations and contractions found in this publication, definitions of terms used

in weather broadcasts, a short explanation of symbols used on radiofacsimile charts, and a multilingual list of terms used in marine weather broadcasts.

There is an abbreviated section on ship codes for those who want to plot ships' weather observations in conjunction with an analysis. If this information is found to be too sketchy, one can obtain Federal Meteorological Handbook No. 2, Synoptic Code, which contains a complete explanation of the ship weather code, including all necessary tables. This publication is sold for \$1.50 by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

NOTE

Comments, suggestions, or information from ships' officers relative to weather schedules listed in this publication are greatly appreciated. Letters should be addressed to National Weather Service, Silver Spring, Md. 20910 (attention W162). Tear sheets for this purpose are at the end of the book.

Section 1-Radiotelegraph

Serial No	Station and abbreviation	Serial No	Station and abbreviation
NORTH ATLANTIC OCEAN			
0010.....Norfolk, Va. (NAM)		0460.....Londonderry, No. Ireland (NST)	
0020.....Halifax, N.S., Canada (CFH)		0470.....Reykjavik, Iceland (TFA)	
0030.....Frobisher Bay, N.W.T., Canada (VFF)		0475.....Iceland (NRK)	
0040.....Resolution Is., N.W.T., Canada (VAW)		0480.....Bergen, Norway (LMB)	
0050.....St. Anthony, Nfld., Canada (VCM)		0490.....Stockholm, Sweden (SAW, SMA)	
0060.....St. John's, Nfld., Canada (VON)		0500.....Helsinki, Finland (OHC)	
0070.....Sydney, N.S., Canada (VCO)		0510.....Helsinki, Finland (OFB)	
0090.....Fox River, Que., Canada (VCG)		0520.....Kiel, Fed. Rep. of Germany (DAO)	
0100.....Mont Joli, Que., Canada (VCF)		0530.....Norddeich, Fed. Rep. Ger. (DAN)	
0110.....Quebec, Que., Canada (VCC)		0540.....Scheveningen, Neth. (PCH)	
0120.....Montreal, Que., Canada (VFN)		0550.....Ponta Delgada, Azores (CTD)	
0130.....Halifax, N.S., Canada (VCS)		0560.....Monsanto, Portugal (CTV, CTU)	
0150.....Boston, Mass. (NMF)		0565.....Rota, Spain (AOK)	
0160.....Boston, Mass. (NIK)		0570.....Casablanca, Morocco (CNO)	
0170.....Amagansett, N.Y. (WSL)		0580.....Dakar, Senegal (6VA)	
0180.....New York, N.Y. (WSF)		0590.....Lome, Togo (5VA)	
0190.....Baltimore, Md. (WMH)		MEDITERRANEAN SEA	
0200.....Portsmouth, Va. (NMN)		0610.....Rome, Italy (IAR)	
0210.....Miami, Fla. (NMA)		0611.....Rome, Italy (IDQ)	
0215.....Key West, Fla. (NAR)		0620.....Tripoli, Libyan Arab Rep. (5AT)	
0220.....Tampa, Fla. (WPD)		0630.....Athens, Greece (SVA)	
0230.....Mobile, Ala. (WLO)		0635.....Greece (NGR)	
0240.....New Orleans, La. (NMG)		0640.....Split, Yugoslavia (YUS)	
0250.....New Orleans, La. (WNU)		0650.....Bandirma, Turkey (YMH)	
0260.....Galveston, Tex. (KLC)		0660.....Lattaquie, Syrian Arab Rep. (YKM)	
0270.....San Juan, P.R. (NMR)		0670.....Haifa, Israel (4XO)	
0280.....North Post, Trinidad (9YL)		0680.....Alexandria, Egypt (SUH)	
0290.....Barbados (8PO)		SOUTH ATLANTIC OCEAN	
0300.....Demerara, Guyana (8RB)		0690.....Rio de Janeiro, Brazil (PPR)	
0310.....Paramaribo, Surinam (PZN)		0700.....Rio de Janeiro, Brazil (PWZ)	
0320.....Curacao, Neth. Antilles (PJC)		0701.....Belem, Brazil (PPL)	
0330.....Fort de France, Fr. Antilles (FFP)		0702.....Juncao, Brazil (PPJ)	
0340.....Bermuda (ZBM)		0703.....Olinha, Brazil (PPO)	
0350.....Godhavn Greenland (OZM)		0710.....Buenos Aires, Argentina (LPD)	
0360.....Angmagssalik, Greenland (OZL)		0720.....Comodore Rivadaria, Argentina (LPX)	
0370.....Portishead, England (GKA)		0730.....Trewlew, Argentina (LPZ)	
0385.....Thurso, Scotland (GXH)		0740.....Luanda, Angola (XXV)	
0380.....Stonehaven, Scotland (GNI)		0750.....Walvis Bay, So. Africa (ZSV)	
0390.....Wick, Scotland (GKR)		0760.....Cape Town, So. Africa (ZSC)	
0400.....Cullercoats, England (GCC)		NORTH PACIFIC OCEAN	
0410.....Nitton, England (GNI)		0770.....Pt. Reyes, Calif. (NMC)	
0420.....Portpatrick, England (GPK)		0780.....San Francisco, Calif. (KFS)	
0430.....Lands End, England (GLD)		0790.....Los Angeles, Calif. (KOK)	
0440.....Malin Head, Ireland (EJM)		0810.....Long Beach, Calif. (NMQ)	
0450.....Valentia, Ireland (EJK)			

WORLDWIDE MARINE WEATHER BROADCASTS

Serial No.	Station and abbreviation	Serial No	Station and abbreviation
0860....Kodiak, Alaska (NOJ)		1330....Wellington, New Zealand (ZLZ, ZLX)	
0870....Vancouver, Br. Columbia (CKN)		1340....Sydney, Australia (VIX)	
0880....Vancouver, Br. Columbia (VAI)		1350....Adelaide, Australia (VIA)	
0890....Prince Rupert, Br. Columbia (VAJ)		1360....Melbourne, Australia (VIM)	
0900....Bull Harbor, Br. Columbia (VAG)		1370....Brisbane, Australia (VIB)	
0910....Tofino, Br. Columbia (VAE)		1380....Rockhampton, Australia (VIR)	
0920....Astoria, Ore. (NMW)		1390....Townsville, Australia (VIT)	
0921....Honolulu, Hawaii (KHK)		1400....Thursday Island (VII)	
0930....Honolulu, Hawaii (NMO)		1410....Darwin, Australia (VID)	
0945....Guam, Marianas Is. (NRV)		1420....Rabaul, New Britain (VJZ)	
0950....Guam Mariana Is. (NPN)		1430....Port Moresby, Papua (VIG)	
0951....Yokusuku, Japan (NDT)		1440....Jakarta, Indonesia (8BB)	
0960....Tokyo, Japan (JMC)			
0970....Hakodate, Japan (JNI)			
0980....Kagoshima, Japan (JNJ)			
0990....Kobe, Japan (JGD)			
1000....Kushiro, Japan (JNX)			
1010....Maizuru, Japan (JNC)			
1020....Moji, Japan (JNR)			
1030....Nagoya, Japan (JNT)			
1040....Niigata, Japan (JNV)			
1050....Otaru, Japan (JNL)			
1060....Sakai, Japan (JNP)			
1070....Sasebo, Japan (JNK)			
1080....Shiogama, Japan (JNN)			
1090....Vladivostok, U.S.S.R. (UIK, UFL)			
1100....Petropavlovsk, U.S.S.R. (UBE)			
1110....Seoul, So. Korea (HLL)			
1120....Manila, Philippines (DZR)			
1130....Manila, Philippines (DZG)			
1140....Manila, Philippines (DZO)			
1150....Manila, Philippines (DZN)			
1160....San Miguel, Philippines (NPO)			
1170....Hong Kong (VPS)			
1180....Dalian, Peoples Rep. of China (XSZ)			
1190....Shanghai, Peoples Republic of China (XSG)			
1200....Taipei, Taiwan (BMB)			
1210....Kao Hsiung, Taiwan (XSW)			
1220....Keelung, Taiwan (XSY)			
1240....Singapore (9VG)			
1250....Bangkok, Thailand (HSA, HSJ)			
SOUTH PACIFIC OCEAN			
1253....Guam, Marianas Is. (NPN)			
1254....Honolulu Hawaii (KHK)			
1255....Honolulu, Hawaii (NMO)			
1260....Santiago, Chile (CAK)			
1270....Valparaiso, Chile (CCV)			
1280....Pitcairn Island (ZP)			
1290....Papeete, Tahiti (FXP)			
1300....Pago Pago, Samoa (KUO)			
1310....Suva, Fiji Is. (3DP)			
1320....Noumea, New Caledonia (FPJ)			
ANTARCTIC			
1830....Oreadas, So. Orkney Is. (LOK)			

SECTION 1

RADIOTELEGRAPH BROADCASTS

Explanatory Notes:

1. Unless otherwise noted, all broadcast times are Greenwich Mean Time (GMT), 24-hour clock (0000-2359).
2. All frequencies are A1 mode unless otherwise noted.
3. Contents are indicated as follows:
 - A - Analysis
 - F - Forecast
 - I - Ice report (shore ice)
 - IB - International iceberg bulletin
 - LR - Synoptic reports (land station)
 - P - Prognosis
 - S - Synopsis
 - SR - Synoptic reports (ship)
 - W - Warning
 - G - Gulfstream Analysis
4. If a broadcast part is encoded, the code is identified by a footnote.

NORTH ATLANTIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-0010-1A					
NORFOLK, VA. (NAM)¹					
<i>Area:</i>					
(a) No. Atlantic north of 03°N, west of 35°W, including Caribbean Sea and Gulf of Mexico					
0030, 1230		W, A			
	8090	-			
	12135	-			
	16180				
	20225 ²				
0630, 1900	do.	W, F			
0500, 1700	do.	IB			
Broadcast keyed from Londonderry NST					
² 1200-0000 only					
1-0020-1A					
HALIFAX, N.S. CANADA (CFH)¹					
<i>Area:</i>					
North Atlantic					
0100, 0700	438 ²	W, F			
1300, 1900	4255				
	6430				
	8697				
	12726				
	16926.5				
0130, 1330	do.	IB			
0430, 1630	do.	A, W			
¹ Naval broadcast, schedules may change without prior notice					
² Off air 1200-1600 second Thur each month					
1-0030-1BC					
FROBISHER BAY, N.W.T., CANADA (VFF)					
<i>Area:</i> ¹					
Northeastern Canada coastal waters, Baffin Bay, Davis Strait, Labrador Sea					
0200, 1100,	430	S, F, I			
1400, 2300	4236.5				
	6493				
¹ See figure 1					
1-0040-1BC					
RESOLUTION IS., N.W.T., CANADA (VAW)					
<i>Area:</i>					
Northeastern Canada coastal waters, Baffin Bay, Davis Strait, Labrador Sea					
0240, 1020	484	S, F			
	1320 2220				
1-0050-1C					
ST. ANTHONY, NFLD., CANADA (VCM)					
<i>Area:</i> ¹					
Newfoundland coastal waters					
0210, 1305,	489	S, F, IB			
	2100				
1700	do.	F ²			
¹ See figure 2					
² For Labrador coast					
1-0060-1C					
ST. JOHN'S, NFLD., CANADA (VON)					
<i>Area:</i> ¹					
Newfoundland coastal waters; Grand Banks					
0150, 1200,	478	S, F			
	1630, 2130				
0000, 1330	do.	IB			
¹ See figure 2					
1-0070-1BC					
SYDNEY, N.S., CANADA (VCO)					
<i>Area:</i> ¹					
Nova Scotia and Newfoundland waters.					
0100, 1300	464	I			
0430, 1220,	464	S, F			
	2140				
¹ See figure 2					
1-0090-1C					
FOX RIVER, QUEBEC, CANADA (VCG)					
<i>Area:</i> ¹					
St. Lawrence River and Gulf					
0040, 1240	434	S, F, I			
1750	434	I			
¹ See figure 2					
1-0100-1C					
MONT JOLI, QUEBEC, CANADA (VCF)					
<i>Area:</i> ¹					
St. Lawrence River and Gulf					



<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
0030, 1230 1750	446 446	S, F F, I		13024.5 ³	
¹ See figure 2					
1-0110-1C					
QUEBEC, QUEBEC, CANADA (VCC)					
<i>Area:</i>					
St. Lawrence River					
0020, 1220, 1720	434	S, F ¹			
¹ MAFOR Code FM 61 D					
1-0120-1C					
MONTREAL, QUEBEC, CANADA (VFN)					
<i>Area:</i>					
St. Lawrence River					
0010, 1210, 1710	420	S, F ¹			
¹ MAFOR Code FM 61 D					
1-0130-1 BC					
HALIFAX, N.S., CANADA (VCS)					
<i>Area:</i>					
Nova Scotia coastal and offshore waters.					
1200, 2100	484	S, F			
¹ See figure 2					
1-0150-1BC					
BOSTON, MASS., U.S.A. (NMF)					
<i>Area:</i>					
(a) Coastal waters, Eastport, Me. to Block Island, R.I.					
0050, 1650	472	F			
On receipt,	472	W			
H+18 and H+48					
¹ See figure 3					
1-0160-1A					
BOSTON, MASS., U.S.A. (NIK)					
<i>Area:</i>					
Western North Atlantic					
0018	5320	IB			
	8502				
1218	8502	IB			
	12750				
1-0170-1B					
AMAGANSETT, N.Y., U.S.A. (WSL)					
<i>Area:</i>					
West Central North Atlantic; New England waters; Southwest North Atlantic; E. Caribbean Sea					
0500, 1100, 1700, 2300	418 8514	F ²			

¹ See figure 3² New York Harbor forecast at 1100 and 2300³ Frequency not used at 0500**1-0180-1C****NEW YORK, N.Y., U.S.A. (WSF)***Area:*

Coastal waters, Block Island, R.I. to Virginia Beach, Va.

1405, 2205² 442 W, LR³¹ See figure 3.² No broadcast on Sunday³ Ambrose Light or Sandy Hook, N.J.**1-0190-1C****BALTIMORE, MD., USA (WMH)***Area:*

Coastal waters, Manasquan, N.J. to Virginia Beach, Va., including Chesapeake Bay.

0130, 1600 428 F, LR²

4346

6351.5

8686

12952.9

1330, 1930 do LR³¹ See figure 3.² Observations from Atlantic City, Philadelphia, Baltimore, Norfolk, and Cape Hatteras**1-0200-1C****PORTSMOUTH, VA., U.S.A. (NMN)***Area:*

West Central North Atlantic

0120, 1620 448 G, F

On receipt, 448² W

H+18 and

H+48

¹ See figure 3.² Preceded by announcement on 500kHz**1-0210-1B****MIAMI, FLA., U.S.A. (NMA)***Area:*

Southwest North Atlantic, Jupiter Inlet to Dry Tortugas and coastal waters including Florida Straits

Radio station, area, and broadcast time	Frequency (kHz)	Contents	Radio station, area, and broadcast time	Frequency (kHz)	Contents
0100, 1600 On receipt	440 440 ²	F, G W	waters, Areas 15, 16 and 17 0530, 1130, 1730, 2330	15, 16 and 17 484 4256 ² 6369 8666 13038 ³ 17208.8 ³	F
¹ See figure 3 ² Preceded by announcement on 500 kHz.			On receipt and odd H030	do.	W
1-0215			¹ See figure 3 ² Nighttime only ³ Daytime only		
KEY WEST, FLA (NAR)			1-0230-1B		
<i>Area:</i> Wrn North Atlantic west of 35° W, including Caribbean Sea and Gulf of Mexico			MOBILE, ALA., U.S.A. (WLO)		
0030, 1200	5870 25590 ¹	W, A	<i>Area:</i> ¹		
0630 1900	do	W, F	Gulf of Mexico; Caribbean Sea; W. CNTRL No. Atlantic		
0500 1700	do	IB	1300, 1700, 2300	438 6446 8474.5 12704.5 17172.4	F
¹ See figure 3					
1-0240-1B			1-0270-1BC		
NEW ORLEANS, LA., U.S.A. (NMG)			SAN JUAN, PUERTO RICO (NMR)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Gulf of Mexico; Caribbean Sea			Eastern Caribbean Sea, Puerto Rico and Virgin Is. coastal waters		
0020, 1720	428	F	0120, 1620	466	F
On receipt, odd	428 ²	W	On receipt,	466	W
H+18 and			H+18 and		
H+48			H+48		
¹ See figure 3 ² Preceded by announcement on 500 kHz.			¹ See figure 3.		
1-0250-1B			1-0280-1B		
NEW ORLEANS, LA., U.S.A. (WNU)			NORTH POST, TRINIDAD (9YL)		
<i>Area:</i> ¹			<i>Area:</i>		
Gulf of Mexico, Caribbean Sea			Caribbean Sea; Antilles; Atlantic waters to east		
0430, 1630	478 2048 4310 ² 6495 8570 12826.5 ³ 17117.5 22431 ³	F	0100, 0600, 0900, 1300, 1500, 1730, 2130	476 8710	W
¹ See figure 3 ² Nighttime only ³ Daytime only			1330, 2050, 1200, 1530	476 12885 17184.8	W
1-0260-1BC			2300	6470.5	W
GALVESTON, TEX., U.S.A. (KLC)			On receipt and at end of first silence period thereafter	476	W
<i>Area:</i> ¹			1-0290-1B		
Gulf of Mexico; Western Caribbean Sea; coastal			BARBADOS (8PO)		
¹ See figure 3			<i>Area:</i>		
² Nighttime only			Caribbean Sea; Antilles; Atlantic waters to east		
³ Daytime only			With traffic lists every odd H	484.5	W
1-0300-1B			DEMERARA, GUYANA (8RB)		
			<i>Area:</i>		
			Waters north of Guyana and east of Trinidad		

NORTH ATLANTIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
On receipt and at end of first traffic period thereafter	422	W	1-0350-1BC		
1-0310-1B			GODHAVN, GREENLAND (OZM)		
PARAMARIBO, SURINAM (PZN)			<i>Area:</i> ¹		
<i>Area:</i>	05°N-15°N, 45°W-60°W		Coastal waters, western Greenland		
0030, 1300	488	W, A, F	0150, 1350, 1950	420 5350	F
1-0320-1B			¹ See figure 3a		
CURACAO, NETHERLANDS ANTILLES (PJC)¹			1-0360-1BC		
<i>Area:</i>	Caribbean Sea, North Atlantic South of 25°N and west of 45°W		ANGMAGSSALIK, GREENLAND (OZL)		
0000	438	W ²	<i>Area:</i> ¹		
	6491.5		Coastal waters, eastern Greenland		
2300	438	W ²	0105, 1305, 1905, 0705	420 7570	F
	4334		1600	420 7570	I
	6491.5			12105	
	8694		¹ See figure 3a		
¹ Broadcasts July 15-November 14 only (Hurricane season)			1-0370-1A		
² Message "No hurricane warning" when no hurricanes affect the area.			PORTISHEAD, ENGLAND (GKA)		
1-0330-1B			<i>Area:</i> ¹		
FORT DE FRANCE, FRENCH ANTILLES (FFP)			North Atlantic waters: 35°N-68°N 15°W-40°W		
<i>Area:</i>	Caribbean Sea; Atlantic Ocean: 10°N-20°N 50°W-70°W		0930	6369	W, S, F,
0100, 1300	4263	W ¹ , S ² ,		8546	SR ² , LR ³
	8675.2 ²	F, A	1130	12822	A ⁴
0300, 0530,	4263	W ¹		17098	
0930				22467	
0000, 0400,	8675.2	W ¹	2130	4286	W, S, F,
0830, 1330,				6369	SR ² , LR ³
1600, 2100				8546	
1145, 1500,	12831	W ¹		12822	
1730, 2000				17098	
On receipt, after first silence period and at every H thereafter	435	W ¹	¹ See figure 4		
¹ In French, repeated in English			² First 5 groups code FM 21 E		
² In French			³ First 4 groups code FM 11 E		
⁴ Code FM 46 D			⁴ Code FM 46 D		
1-0340-1C			1-0380-1B		
BERMUDA (ZBM)			STONEHAVEN, SCOTLAND (GND)		
<i>Area:</i>	Bermuda local area		<i>Area:</i> ¹		
0118, 0518,	476(A2)	F	Firth, Cromarty, Forties		
1318, 1718			0830, 2030	458(A2)	F
			0818, 1218,	458(A2)	W
			1618, 2018		
			¹ See figure 4		
1-0385			1-0385		
THURSO, SCOTLAND (GXH)			THURSO, SCOTLAND (GXH)		
<i>Area:</i> Same as NAM			<i>Area:</i> Same as NAM		
0030			0030	3724	W, A
0630, 1900			0630, 1900		W, F
					Note: US Navy Weather Broadcast at intervening times for Eastern and North Atlantic and Mediterranean Sea

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-0390-1B			1-0450-1B		
WICK, SCOTLAND (GKR)			VALENTIA, IRELAND (EJK)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Southeast Iceland, Faeroes, Fair Isle, Hebrides, Viking, Cromarty			Shannon, Fastnet		
0848, 2048	432(A2)	F	0830, 2030	429(A2)	F
0818, 1218,	432(A2)	W	0818, 1218,	429(A2)	W
1618, 2018			1618, 2018		
' See figure 4			' See figure 4		
1-0400-1B			1-0460-1AB		
CULLERCOATS, ENGLAND (GCC)			1-0460		
<i>Area:</i> ¹			LONDONDERRY, NO. IRELAND (NST)		
Humber, German Bight, Thames, Dogger, Tyne, Fisher			<i>Area: Same as NAM</i>		
0848, 2048	484(A2)	F	0030, 1230	7504.5	W, A
0818, 1218,	484(A2)	W		12691 ¹	
1618, 2018			0630, 1900	do	W F
' See figure 4			0500, 1700	de	I
1-0410-1B			' 0800-1900 only		
NITON, ENGLAND (GNI)			Note: U.S. Navy Weather Broadcast at intervening times for		
<i>Area:</i> ¹			Eastern and North Atlantic and Med. Sea.		
Dover, Portland, Wight			1-0470-1BC		
0830, 2030	464(A2)	F	REYKJAVIK, ICELAND (TFA)		
0818, 1218,	464(A2)	W	<i>Area:</i>		
1618, 2018			Coastal waters of Iceland, 63°N-67.5°N, 12°N- 27°W		
' See figure 4			0530, 1130,	276	I, S, F ¹
1-0420-1B			1730, 2330		
PORTPATRICK, ENGLAND (GPK)			' Entire broadcast in Icelandic, repeated in English		
<i>Area:</i> ¹			1-0475		
Irish Sea, Lunc			REYKJAVIK, ICELAND (NRK)		
0830, 2030	472(A2)	F	<i>Area: Same as NAM</i>		
0818, 1218,	472(A2)	W	0030, 1230	5167	W, A
1618, 2018			0630, 1900	do	W, F
' See figure 4			0500, 1700	do	I
1-0430-1B			Note: U.S. Navy Weather Broadcast at intervening times for		
LANDS END, ENGLAND (GLD)			Eastern and North Atlantic and Med. Sea.		
<i>Area:</i> ¹			1-0480-1A		
Lundy, Sole, Plymouth, Biscay, Finisterre			BERGEN, NORWAY (LMB)		
0848, 2048	438(A2)	F	<i>Area:</i>		
0818, 1218,	438(A2)	W	Southern part of Norwegian Sea, waters north		
1618, 2018			and northeast of Iceland, Northeast		
' See figure 4			Denmark Strait		
1-0440-1B			1305	4532.5	W, S, F ¹
MALIN HEAD, IRELAND (EJM)				5780	
<i>Area:</i> ¹				7778.2	
Hebrides, Malin, Rockall, Bailey				11165	
0848, 2048	421(A2)	F	2240	3271	W, S, F ¹
0818, 1218,	421(A2)	W		4532.5 ²	
1618, 2018				5780	
' See figure 4				7778.2	
				11165.2	
					¹ Including shipping lanes east of 40°W.: Faeroe Is. to Cape
					Farewell, Shetland to Cape Race; Lands End to Cape Race.

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-0580-1A DAKAR, SENEGAL (6VA) <i>Area:</i> Atlantic Waters, Equator-25°N, 0°-35°W			1-0590-1C LOME, TOGO (5VA) <i>Area:</i> Lome Roads		
1000, 2200	6386	S ² , F ² , F ³	0835	472	S ¹ , F ¹ , F ²
	8690			5265	

¹ See figure 3a² In French³ Code FM61.D(MAFOR)

MEDITERRANEAN SEA

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-0610-2B			1-0635		
ROME, ITALY (IAR)			ATHENS, GREECE (NGR)		
<i>Area:</i>			<i>Area:</i>		
Central Mediterranean Sea, North of 35°N, 06°E-20°E			Same as NAM		
0050, 1250	519	W ¹ , S ² , F ³ ,	0030, 1230	4623	W, A
	4292	LR ⁴		13372.5	
0050	4320		0630	do	W, F
0700, 1900	519	W ¹ , LR ⁴	0500, 1700	do	I
	4292				
¹ In Italian and English	8530				
² In Italian	13011				
³ Includes additional information for the Western and Eastern Mediterranean Sea.					
⁴ Code FM11.E					
1-0611-2B			1-0640-2B		
ROME, ITALY (IDQ) ¹			SPLIT, YUGOSLAVIA (YUS)		
<i>Area:</i> ²			<i>Area:</i>		
Mediterranean Sea			Adriatic Sea and Straits of Otranto		
0500, 0830, ³ 119		F	0800, 1330, 484		W ¹ , S ¹ , F ¹
1800, 2100 ⁴ 2291			2000		
	4280				
	6390.3				
	8486				
¹ Naval broadcast; schedules sometimes delayed			¹ In Serbo-Croat, repeated in English.		
² See figure 5.			1-0650-2B		
³ Rebroadcast of 0600 information			BANDIRMA, TURKEY (YMH)		
⁴ Rebroadcast of 1800 information			<i>Area:</i>		
1-0620-2B			Eastern Mediterranean Sea, Black Sea, Aegean Sea		
TRIPOLI, LIBYAN ARAB REPUBLIC (SAT)			0650, 1850	478	W ² , S ² , F ²
<i>Area:</i>				3636	
Mediterranean Sea south of 34°N, 10°E-25°E				6965	
0900, 1700	476 ¹	F ²	0450, 1710	3636	A ³
0903, 1703	500	W ³		6965	
¹ After Preliminary call on 500 kHz			1030, 2230	3636	P ^{3,4} , A ³
² In English				6965	
³ In English and Arabic					
⁴ Preceded by upper air prognoses which begin at 1030 GMT.					
1-0630-2B			¹ See figure 5.		
ATHENS, GREECE (SVA)			² In Turkish, repeated in English.		
<i>Area:</i>			³ Code FM 45.D		
Greek waters; Eastern Mediterranean 30°N- 43°N, 15°E-35°E			⁴ Preceded by upper air prognoses which begin at 1030 GMT.		
0348, 0948,	418	W ¹ , S ² , F ²			
1548, 2148					
¹ In English, repeated in Greek					
1-0670-2B					
HAIFA, ISRAEL (4XO)					
<i>Area:</i>					
Mediterranean east of 25°E					

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
0800, 2000	484	F	ALEXANDRIA, EGYPT (SUH)		
On receipt:	484	W	<i>Area:</i> ¹		
0303, 1103,			Eastern Mediterranean		
1503, 2303			0100, 1300	444	F
Note: Special weather information may be requested on 500 kHz.			On request	444	W
1-0680-2B					
¹ See figure 6					

SOUTH ATLANTIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-0690-3A			0400	4265	W ² ³ , A ² ³ ,
RIO DE JANEIRO, BRAZIL (PPR)				8502	F ² ³
<i>Area:</i> ¹				12979.5	
07°N-36°S, west of 20°W				17170	
0400, 1000	435	W ² , A ³ , F ²	2020	do.	do., plus
	8634				A ³ ⁴ , LR ⁵ ,
	4244				SR ⁶
	12687				
	22603				
2020	do.	F ² , A ³ , LR ⁵ , SR ⁶			
0100, 0600,	435	S ²			
1000, 1200,					
1500, 2100					
¹ See figure 7.					
² In Portuguese, repeated in English					
³ Code FM46.D					
⁴ Code FM11.E					
⁵ Code FM23.E					
1-0700-3A			1-0702-3ABC		
RIO DE JANEIRO, BRAZIL (PWZ)			JUNCAO, BRAZIL (PPJ)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
07°N-36°S, west of 20°W, Brazilian coastal waters			(a) Approaches to Juncão Harbor		
0030, 0630	4289	W ² , F ²	(b) Atlantic coast from Uruguay to French Gui-		
	6435		ana		
	8550		(c) South Atlantic west of 20°W, 07°N-36°S		
	12754.5		0100, 0600, 480 S ²		
	17160		1000, 1200		
	22530		1500, 2100		
1730	do.	W ² , F ² , A ³ , SR ⁵ , LR ⁵	0400	4251	W ² ³ , A ² ³ ,
				8520	F ² ³
¹ See figure 7.				12840	
² In Portuguese, repeated in English				17170	
³ Code FM46.D			2020	do.	do., plus
⁴ Code FM23.D					A ³ ⁴ , LR ⁵ ,
⁵ Code FM11.F					SR ⁶
1-0701-3ABC					
BELEM, BRAZIL (PPL)					
<i>Area:</i> ¹					
(a) Approaches to Belem Harbor					
(b) Atlantic coast from Uruguay to French Gui-					
ana					
(c) South Atlantic west of 20°W, 07°N-36°S					
0100, 0600, 435 S ²					
1000, 1200					
1500, 2100					
			0400	4298	W ² ³ , A ² ³ ,
				8520	F ² ³
				12840	

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
2020	17162 do.	do., plus A ³ ⁴ , LR ⁵ , SR ⁶	Rio de la Plata, Atlantic Zone of Argentina and Coasts of Uruguay and Brazil (Southern Part)	1730	527 W ² ,S ² ,F ²
					¹ See figure 7. ² In Portuguese and English. ³ For area C. ⁴ Code FM 46.D. ⁵ Code FM 11.E. ⁶ Code FM 23.E.
1-0710-3B			1-0750-3B		
BUENOS AIRES, ARGENTINA (LPD)			WALVIS BAY, SOUTH AFRICA (ZSV)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Rio de la Plata, Atlantic Zone of Argentina; coastal waters of Uruguay and southern Brazil			Coastal waters, (50 miles seaward) Cunene River-Orange River		
0118, 1600	524 4262 12763	W ² ,S ² ,F ²	0950, 1650 1350	519(A2) 519	W, F LR
					¹ See figure 9.
1-0720-3B			1-0760-3A		
COMODORO RIVADAVIA, ARGENTINA (LPX)			CAPE TOWN, SOUTH AFRICA (ZSC)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Rio de la Plata, Atlantic Zone of Argentina; coastal waters of Uruguay and southern Brazil			(a) Atlantic waters south of Equator, 20°W- 20°E; south of 25°S, 20°E-70°E (b) Coastal waters, (50 Miles Seaward) Orange River- East London		
0400, 1800	474	W ² ,S ² ,F ²	0930, 1730	4291 6423 8461 12724 17018 22455	W ² ,S ² ,F ² A ³
			0930, 1730	418 418 22455	W ⁴ ,F ⁴ LR
			1348		
1-0730-3B					
TRELEW, ARGENTINA (LPZ)					
<i>Area:</i> ¹					

NORTH PACIFIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-0770-4ABC			1-0810-4AC		
PT. REYES, CALIF. (NMC)			LONG BEACH, CALIF. (NMQ)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
(a) North Pacific; Equator-30°N, east of 140°W			(a) Equator northward, east of 160°E (b)		
(b) North Pacific; north of 30°N, east of 160°E			Coastal waters, areas 5 and 6		
(c) Coastal waters, areas 3 and 4			0420, 1720	472	W ² , S ² , F ³
0030, 0630,	4346 ⁴	8682 S ² , F ²	H018 or H048	472	W ²
1900, 2100	12730				
	17151.2 ⁵				
0330, 1700	420	W ³ , S ³ , F ³			
¹ See figure 12			¹ See figure 12		
² For areas a and b			² For areas a and b		
³ For area c			³ For area b		
⁴ Use only at 0630					
⁵ Not used at 0630					
1-0780-4ABC			1-0830-4B		
SAN FRANCISCO, CALIF. (KFS)			GALVESTON, TEXAS (KLC)		
<i>Area:</i> ¹			<i>Area:</i>		
(a) Equator-30°N, east of 140°W (b) North of 30°N, east of 160°E (c) Coastal waters, areas 3 and 4			Equator-30°N, east of 140°W		
0420, 1620,	436	W ² , S ² , F ²	On receipt and	484	W ¹
2300	8713.5		odd H030	4256 ²	
	12695.5			6369	
	17184.8			8666	
	22515			13038 ³	
2200	do.	W ³ , F ³		17208.8 ³	
¹ See figure 12					
² For areas a and b					
³ For area c					
1-0790-4AC			¹ Also included are warnings for Gulf of Mexico and Caribbean Sea		
LOS ANGELES, CALIF. (KOK)			² Nighttime only		
<i>Area:</i> ¹			³ Daytime only		
(a) Equator northward, east of 160°E (b) Coastal waters, area 5			1-0860-4B		
0450, 1650	464	W ² , F ²	KODIAK, ALASKA (NOJ)		
	6463.5 ³	LR ⁴	<i>Area:</i> ¹		
	8590		Gulf of Alaska; coastal waters-Areas 2, 3, 4, 5, 6		
	12933		0630, 1930	470	S, F
	17064.8 ⁵		0530 1730		
Even H050	do.	W ⁶	1-0870-4C		
¹ See figure 12			VANCOUVER, B.C., CANADA (CKN)		
² For area b			<i>Area:</i> ¹		
³ Nighttime only			British Columbia coastal waters		
⁴ Los Angeles Harbor Light			0000 0430	110.75	A, F
⁵ Daytime only			1330	4307	
⁶ For area b				6445.25	

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-0960-4A			1-1000-4B		
TOKYO, JAPAN (JMC)			KUSHIRO, JAPAN (JNX)		
<i>Area:</i>			<i>Area:</i> ¹		
(a) Equator-60°N, 100°E-180° (b) Equator- 60°N, 95°E-175°W (c) 20°N-50°N, 120°E- 140°E			Japanese coastal waters: Hakodate		
0318, 0918, 122.65 W ¹ , S ¹			1055, 2255 444(A2) LR, F		
1518, 2118 4298			¹ See figure 13		
6397					
8526 ²					
12840					
17029 ³					
0548, 1148, do. W ⁴					
1748, 2348					
0448, 1048, do. A ⁵					
1648, 2248					
0200, 0800, do. LR ⁶					
1400, 2000					
0218, 0818, do. LR ⁷					
1418, 2018 SR ⁸					
0248, 0848, do. LR ⁹					
1448, 2048 SR ¹⁰					
¹ For area a					
² 0945-1815					
³ 1815-0945					
⁴ For area c, English and Japanese					
⁵ For area b					
⁶ Japan reports, Code FM11.E					
⁷ Korea, China, Hong Kong reports, code FM11.E					
⁸ Code FM21.E, 23.E					
⁹ China, Siberia, Pacific Islands, Alaska, Philippines reports, Code FM11.E					
1-0970-4B			1-1020-4B		
HAKODATE, JAPAN (JNI)			MOJI, JAPAN (JNR)		
<i>Area:</i>			<i>Area:</i> ¹		
Japanese coastal waters: Hakodate			Japanese coastal waters: Fukuoka		
0325, 0925, 472(A2) LR, F			0925, 2125 444(A2) F		
2125			¹ See figure 13		
¹ See figure 13					
1-0980-4B			1-1030-4B		
KAGOSHIMA, JAPAN (JNJ)			NAGOYA, JAPAN (JNT)		
<i>Area:</i>			<i>Area:</i> ¹		
Japanese coastal waters: Kagoshima			Japanese coastal waters: Nagoya		
0950, 2250 478(A2) F ²			0125, 1050 464(A2) LR, F		
¹ See figure 13			¹ See figure 13		
² In English and Japanese					
1-0990-4B			1-1040-4B		
KOBE, JAPAN (JGD)			NIIGATA, JAPAN (JNV)		
<i>Area:</i>			<i>Area:</i> ¹		
Japanese coastal waters: Kobe			Japanese coastal waters: Niigata		
0055, 1325 472(A2) S, LR, F			0720, 1250, 472(A2) LR, F		
¹ See figure 13			2225		
			¹ See figure 13		
1-1060-4B			1-1050-4B		
SAKAI, JAPAN (JNP)			OTARU, JAPAN (JNL)		
<i>Area:</i>			<i>Area:</i> ¹		
Japanese coastal waters: Maizuru			Japanese coastal waters: Sapporo		
0150, 0850, 464(A2) S ² , F ²			0100, 1030, 472(A2) LR, F		
2205			2235		
¹ See figure 13			¹ See figure 13		
² In English and Japanese					

NORTH PACIFIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-1070-4B			0120	474	F, W
SASEBO, JAPAN (JNK)				6446	
<i>Area:</i> ¹				8568	
Japanese coastal waters: Nagasaki				12852	
0935, 2235	444(A2)	F ²		17136	
¹ See figure 13			¹ See figure 14		
² In Japanese and English					
1-1080-4B			1-1130-4B		
SHIOGAMA, JAPAN (JNN)			MANILA, PHILIPINES (DZG)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Japanese coastal waters: Sendai			05°N-25°N, 15°E-135°E		
0030, 0625	464(A2)	F ²	0320, 1520	483	F, W
¹ See figure 13				6441	
² In English and Japanese				8588	
1-1090-4AB				12882	
VLADIVOSTOK, U.S.S.R. (UIK, UFL)				17176	
<i>Area:</i> ¹				22502	
Sea of Japan; NW Pacific, 34°N-51°N, west of			¹ See figure 14		
180°					
0530, 2130	142.86	S ¹ , F ¹ , I ¹	1-1140-4B		
	2605		MANILA, PHILIPPINES (DZO)		
	6379.5		<i>Area:</i> ¹		
¹ In Russian, repeated in MAFOR Code (FM61.D) or in English			05°N-25°N, 15°E-135°E		
			1030, 2330	518	F
1-1100-4B				4290	
PETROPAVLAWSK, U.S.S.R. (UBE)				6435	
<i>Area:</i> ¹				8580	
Sea of Okhotsk, Bering Sea, Pacific in Vicinity				12870	
of Kamchatka				17170	
0500, 0900 ¹	450	S ² , F ² , I ²	¹ See figure 14		
2000	3310 ³		1-1150-4B		
	6370		MANILA, PHILIPPINES (DZN)		
	13020 ⁴		<i>Area:</i> ¹		
¹ Repetition of the 0500 broadcast			05°N-25°N, 15°E-135°E		
² In Russian, repeated in MAFOR Code (FM61.D) or in English			0200, 1400	447	F
³ Frequency not used at 0500				4314	
⁴ Frequency not used at 0900 or 2000				6468	
1-1110-4B				8684	
SEOUL, SO. KOREA (HLL)				12906	
<i>Area:</i> ¹				17208	
East Sea, Yellow Sea, Cheju, Chusan, Nagasaki,			¹ See figure 14		
Kagoshima					
0000, 1200	5810	W ² , S ² , F ²	1-1160-4A		
	11620		SAN MIGUEL, PHILIPPINES (NPO)		
¹ See figure 13			<i>Area:</i> ¹		
² In English and MAFOR Code (FM61.D)			(a) Tropical Waters, 62°E-180°		
1-1120-4B			(b) Equator-Asian mainland, 62°E-160°E		
MANILA, PHILIPPINES (DZR)			(c) Equator-25°N, 130°E-180°		
<i>Area:</i> ¹			0400, 1300, 4445	W ² , F ³	
05°N-25°N, 15°E-135°E			1700, 2300, 10440.5		
				12200	
			¹ Naval Weather Service broadcast, identical to Guam (NPN) transmission		
			² For areas a and b		
			³ For area c		

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-1170-4B			1-1200-4B		
HONG KONG, (VPS)			TAIPEI, TAIWAN (BMB)		
<i>Area:</i> ¹			<i>Area:</i>		
China Sea north of 10°N; Gulf of Tonkin; coastal waters, Hainan Is.; Shanghai; waters east of Taiwan to Ryukyus			(a) 10°N-40°N, 90°E-150°E (b) 10°N-30°N, 105°E-140°E (c) East China Sea, South China Sea ⁵		
0118, 1318,	527.5 435 3842 6371 ⁴ 8539 13020 17096 ⁵	W, S, F, LR ² , SR ³	0400, 1000, 1600, 2200	5909 8117 ³ 13560 ⁴	A ¹ , W ³ , F
0430	527.5 435 8539 13020 17096	A ⁶			
0818;	do.	W			
On receipt and H018					
¹ See figure 13					
² Code FM 11 E					
³ Code FM 21 E, 22 E, 23 E					
⁴ 1006-2400					
⁵ 0000-1300					
⁶ Code FM 46 D, for area 05°N.-45°N., 95°E.-150°E					
1-1180-4B			1-1210-4B		
DALIAN, PEOPLES' REPUBLIC OF CHINA (XSZ)			KAO-HSIUNG, TAIWAN (XSW)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
North and central Huanghai Sea and Bohai Sea			East China Sea, South China Sea		
0050, 1250	462 6502 8694	W ^{2,3} , F ³	1100, 2300	460 8582	F, W
¹ See figure 13a			¹ See figure 13		
² Warning of winds Force 7 or greater			1-1220-4B		
³ In Chinese and English			KEELUNG, TAIWAN (XSX)		
1-1190-4B			<i>Area:</i>		
SHANGHAI, PEOPLES REPUBLIC OF CHINA (XSG)			East China Sea, South China Sea ¹		
<i>Area:</i> ¹			1030, 2230	420 8714	F, W
Bohai Sea, Huanghai Sea, Shanghai Port, Taiwan Straits and Waters around Taiwan			¹ See figure 13		
0306, 0906	458 6414.5 8502 12871.5	W ^{2,3} , F ³ , S	1-1240-4B		
¹ See figure 13a			SINGAPORE (9VG)		
² Tropical storm and typhoon warnings			<i>Area:</i> ¹		
³ In Chinese and English			Malacca Straits, Andaman Sea, South China Sea		
0120, 1320	516 4322 6412	W, S, F	1-1250-4B		
¹ See figure 13			BANGKOK, THAILAND (HSA, HSJ)		
² Code FM 11 E			<i>Area:</i> ¹		
³ For Equator-30°N., 90°E-120°E			Gulf of Thailand, Strait of Malacca, South China Sea		
⁴ For areas 1, 2, 3, 4, 5			0150	512 7955	W, LR ²
			0750	do.	W, S ³ , F ⁴ , LR ²

SOUTH PACIFIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-1260-5BC			0155, 1800	450	F
1-1253					
GUAM, MARIANAS, IS. (NPN)			1-1290-5B		
<i>See 1-0950 for broadcast information to South Pacific Ocean.</i>			PAPEETE, TAHITI (FXP)		
			<i>Area:</i> ¹		
			05°S-30°S, 130°W-160°W		
			0400	7320	W ² , S ² , A ³ , F ²
				16040	
			¹ See figure 17		
			² In French		
			³ Code FM 46.D		
1-1254			1-1300-5C		
HONOLULU, HAWAII (KHK)			PAGO PAGO, SAMOA (KUQ)		
<i>See 1-0921 for broadcast information to South Pacific Ocean.</i>			<i>Area:</i>		
			Samoa and Tokelau Islands		
			0400, 2000	8585	F
1-1255			1-1310-5BC		
HONOLULU, HAWAII (NMO)			SUVA, FIJI IS. (3DP)		
<i>See 1-0930 for broadcast information to South Pacific Ocean.</i>			<i>Area:</i>		
			(a) Equator-25°S, 160°E-140°W		
			(b) Fijian coastal waters		
			0005, 0830	518(A2)	W ¹ , F ²
			On receipt,	518(A2)	W ³
			H018		
			¹ For area a		
			² For area b		
			³ Preceded by announcement on 500 kHz		
1-1270-5C			1-1320-5B		
VALPARAISO, CHILE (CCV)			NOUMEA, NEW CALEDONIA (FJP)		
<i>Area:</i> ¹			<i>Area:</i>		
Chilean coastal waters			Waters off New Caledonia and New Hebrides, extending 300 mi. seawards.		
1430, 2030	2841	F ²	0000	8698	W ² , F ² , A ³
	4271		0030	416.5	do.
	8558		0900	8698	W ² , F ² , S ²
	12960		0930	416.5	do.
	18175				
¹ See figure 16			¹ See figure 18		
² In Spanish			² In French		
1-1280-5C			³ Code FM 46.D.		
PITCAIRN IS. (ZBP)			For area: Equator-45°S, 130°E-170°W		
<i>Area:</i>			1-1330-5A		
Local waters			WELLINGTON, NEW ZEALAND (ZLZ, ZLX)		
			<i>Area:</i>		
			(a) Equator-50°S, 160°E-140°W		
			(b) 20°S-55°S, 140°E-140°W		

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
(c) Equator-25°S, 155°E-140°W			0530	do.	W ¹ , F ² , A ³
(d) 25°S-50°S, 160°E-140°W			0930		W ¹ , F ² , A ⁴
(e) Equator-25°S, 160°E-140°W				4286	
0200, 0815, 1400, 2015	5915 ¹	W ²		6428.5	
	7600			8478	
	11130			12907.5	
	14850			16918.8	
	19488 ³		1330	do.	W ¹ , F ³
0500, 1800	5915 ⁴	A ⁵	2130		A ⁴
	7600			4286	
	11130			6428.5	
	14850			8478	
	19488			12907.5	
0520	7600	A ⁶		16918.8	
	11130			22485	
	14850				
	19488				
0840, 2040	5915	S ⁷ , F ⁷			
	7600	SR, LR			
	11130				
	14850				
	19488 ⁸				
0910, 2110	5915	W ⁹ , S ⁹ , F ⁹			
	7600	SR, LR			
	11130				
	14850				
	19488 ¹⁰				
¹ Not used at 0200					
² For area a					
³ Not used at 0815 or 1400					
⁴ Not used at 0500					
⁵ For area b; Code FM 46.D					
⁶ For area c; Code FM 46.D					
⁷ For area d					
⁸ Not used at 0840					
⁹ For area e					
¹⁰ Not used at 0910					
-1340-5A					
SYDNEY, AUSTRALIA (VIX)					
<i>Area:</i>					
(a) Equator-50°S 100°E-170°E					
(b) NE Waters: equator-30°S, 142°E-170°E					
(c) Southeast Waters: 30°S-50°S, 129°E-170°E					
(d) 10°S-50°S, 90°E-180°					
(e) Northern Waters: equator-10°S, 100°E-142°E and southward to coast between 129°E and 142°E					
(f) Northwest, West, and Southwest Waters: 10°S-50°S, 95°E-129°E					
130		W ¹ , F ²			
	4286				
	6428.5				
	8478				
	12907.5				
	16918.8				
	22485				
1-1350-5B					
ADELAIDE, AUSTRALIA (VIA)					
<i>Area:</i>					
Great Australian Bight, south to 50°S, 129°E-141°E					
0018, 1018	472(A2)	F, LR, SR			
On receipt and even H+18	472(A2)	W			
		6463.5			
1-1360-5B					
MELBOURNE, AUSTRALIA (VIM)					
<i>Area:</i>					
38°S-50°S, 141°E-160°E					
0948, 2318	430(A2)	F, LR, SR			
	6333.5				
	4245(A2)				
On receipt and even H+18	430(A2)	W			
1-1370-5B					
BRISBANE, AUSTRALIA (VIB)					
<i>Area:</i>					
20°S-28°S, east to 160°E					
0948, 2318	435(A2)	F, LR, SR			
	6351.2				
On receipt and even H+18	435(A2)	W			
1-1380-5B					
ROCKHAMPTON, AUSTRALIA (VIR)					
<i>Area:</i>					
20°S-28°S, east to 160°E					

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
0048 ~ On receipt and even H+18	472(A1A2) 472(A2) 6502(A2)	F W	On receipt and even H+18	445(A2)	W
I-1390-5B			I-1420-5B		
TOWNSVILLE, AUSTRALIA (VIT)			RABAUL, NEW BRITAIN (VJZ)		
<i>Area:</i> 09°S-20°S, 142°E-160°E			<i>Area:</i> Papua, New Guinea waters: Equator-14°S, 141°E-160°E		
0030, 0930, 0930, 2348	420.5 6463.5(A2)	F, LR, SR	0000, 0900 6351.5	430 F, LR, SR	
On receipt and even H+18	420.5(A2)	W	On receipt and even H+18	430	W
I-1400-5B			I-1430-5B		
THURSDAY IS., AUSTRALIA (VII)			PORT MORESBY, PAPUA (VIG)		
<i>Area:</i> Queensland waters, 142°E-160°E, Equator-coast, 125°E-142°E			<i>Area:</i> Papua, New Guinea waters: Equator-14°S, 141°E-160°E		
0018, 0948	6502(A2)	F	0048, 0530 6351.5	484 F, LR, SR	
On receipt and even H+18	488.5(A2)	W	On receipt and even H+18	484(A2)	W
I-1410-5B			I-1440-5B		
DARWIN, AUSTRALIA (VID)			JAKARTA, INDONESIA (8BB)		
<i>Area:</i> Equator to Coast, 125°E-42°E			<i>Area:</i> Indonesian Waters.		
0048, 1048	445 6463.5	F, LR, SR	0830 11500 16200	W ¹ , S ¹ , F ¹	
					¹ In Indonesian and English

INDIAN OCEAN, RED SEA, AND PERSIAN GULF

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-1450-6A			1-1520-6A		
CAPE TOWN, SO. AFRICA (ZSC)			TAMATAVE, MADAGASCAR (5RS)		
See 1-0760			<i>Area:</i> ¹		
1-1460-6BC			05°S.-30°S., Coast-70°E., except area west of 45°E between 15°S and 30°S		
CAPE TOWN, SO. AFRICA (ZSC5)			0000 ² , 0400 ² , 476 ³ W ⁴		
<i>Area:</i> ¹			0800 ² , 1200 ² , 519 ³		
Coastal Waters 50 mi. Seaward Between Orange River And East London; Area Cape West			2000 ²		
0930, 1730 418(A2) W, F			0510, 0810 8734 LR ⁵ , S ⁵ , F ⁵		
¹ See figure 9			¹ See Figure 21		
1-1470-6BC			² Repeated at H010, broadcast only if a special marine weather bulletin is issued for area.		
DURBAN, SO. AFRICA (ZSD)			³ After Preliminary call on 500 kHz.		
<i>Area:</i> ¹			⁴ In French		
Coastal waters 50 mi. seaward between Agulhas and Lourenco Marques; Mozambique Chan- nel; area Durban East.			⁵ Code FM 11 F (1st 4 groups)		
0950, 1705 432 W, F			1-1530-6A		
4242.5			VACOAS, MAURITIUS (3BA)		
8576.5			<i>Area:</i> ¹		
1248 432 LR			Southwest Indian Ocean, approximately 10°S- 30°S, 50°E-85°E		
¹ See figure 9			0148, 1348 500 (A2) W ² , S ² , F ² ,		
1-1480-6BC			LR ³ , SR ⁴		
PORT ELIZABETH, SO. AFRICA (ZSQ4)			0448 500(A2) do., plus A ⁵		
<i>Area:</i> ¹			0748 ⁶ , 1648 ⁶ , 500(A2) W, LR ³ , SR ⁴		
Coastal waters 50 Mi. seaward between Agulhas and Lourenco Marques; area Cape East			2048 ⁶		
0920, 1720 472 W, F			¹ See figure 20		
1320 472 LR			² For areas D35 to D70, E80 and E90		
¹ See figure 9			³ Code FM 11 F		
1-1500-6C			⁴ Code FM 21 F, 22 F, 23 F		
BEIRA, PORTUGUESE EAST AFRICA (CRX 3)			⁵ Code FM 46 D, area, equator-40°S, 40°E-80°E		
<i>Area:</i>			⁶ Only when a tropical storm affects areas D35 to D70		
Coastal waters, 10°S-27°S, 50 mi. seaward			1-1545		
0835, 1135, 515 W ¹ , S ¹ , F ¹			MAURITIUS (3BM)		
2020			<i>Area:</i>		
¹ In Portuguese, repeated in English			10°N to 40°S, African coast to 100°E.		
1-1510-6C			0130, 0430 6351.5 ² W, F, S		
PORTE AMELIA, PORTUGUESE EAST AFRICA (CRX 4)			0900, 1330 ¹ 12988.5		
<i>Area:</i>			1630, 2030 ¹ 16978.4 ³		
Coastal waters, 10°S-27°S, 50 mi. seaward			¹ Used only during cyclones		
0835, 1135, 487 W ¹ , S ¹ , F ¹			² H24		
2020			³ 0600-1400		
¹ In Portuguese, repeated in English			1-1550-6A		
NAIROBI, KENYA (5YE)			NAIROBI, KENYA (5YE)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
12°N-11°S, Coast to 60°E			12°N-11°S, Coast to 60°E		
1200 9043 W, S, F,			1200 9043 W, S, F,		
17365 SR ² , LR			17365 SR ² , LR		

INDIAN OCEAN, RED SEA, AND PERSIAN GULF

Radio station, area, and broadcast time	Frequency (kHz)	Contents	Radio station, area, and broadcast time	Frequency (kHz)	Contents
¹ See figure 22 ² Code FM 21.E, 22.E, 23.E ³ Code FM 11.E			1-1620-6C		
1-1560-6A			KUWAIT (9KK)		
MOMBASA, KENYA (5ZF)			<i>Area:</i>		
<i>Area:</i> 12°N-25°S, west of 65°E			Coastal waters of Kuwait		
0418, 0818, 1218, 1618	500	W	0530, 1730, 450		F
			on request 8525		
			12895		
1-1570-6B			1-1630-6B		
DJIBOUTI, FRENCH TERRITORY OF THE AFARS AND ISSA (TXZ)			BASRAH, IRAQ (YIR)		
<i>Area:</i> ¹ Indian Ocean north of 10°S and west of 60°E; Red Sea, Gulf of Aden			<i>Area:</i>		
0430, 0900	464	F ²	North Persian Gulf		
	8682		0530, 1330, 440		F
1500	8682	A ³	on request 6493.25		
1700 ⁴	464	F ²	8668		
	8632				
¹ See figure 20 ² For areas A 00, 05, 10, 15, 20, 25, In French repeated in English ³ Code FM 46.D ⁴ Repeat of 0900 broadcast			1-1640-6B		
1-1580-6B			KARACHI, PAKISTAN (ASK)		
MASSAWA, ETHIOPIA (ETV)			<i>Area:</i>		
<i>Area:</i> Red Sea			Arabian Sea north of 20°N, Gulf of Oman, Persian Gulf		
0500	455	S, F	0830	484	F
				13024	
1-1590-6B			1630	484	F
PORT SUDAN, SUDAN (STP)				8694	
<i>Area:</i> Red Sea 18°N-23°N			0030, 0430, 500		W ¹
0810	500	F	1230, 2030		
1-1600-6B					
KOSSSEIR, EGYPT (SUK)					
<i>Area:</i> Red Sea north of 23°N					
1230	429(A2)	W, F			
1-1610-6B					
RA'S TANNURAH, SAUDI ARABIA (HZY)					
<i>Area:</i> Persian Gulf, Gulf of Oman, Dhahran					
0430	430	F, LR			
	8480				
1630	430	F, LR			
	12811.3				
On request	16960	F, LR			
Note: Ships are requested to furnish observations to this station to assist in preparation of forecasts					

¹ See figure 23

² Code FM 21.F

³ Code FM 11.E

⁴ For area a

⁵ Code FM 46.D

⁶ For area b; broadcast only in event of a tropical storm having developed.

1-1660-6B

COLOMBO, SRI LANKA (4PB)

Area:

(a) 10°N-05°S, 60°E-95°E

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
(b) 05°S-15°S, 70°E-95°E 0530, 0600, 1330	482(A2) 8473(A2)	F	0900, 1700 0500 ² , 1300 ² , 2100 ²	440 440 440	S, F S, F. S, F.
1-1670-6B			¹ See figure 23.		
MADRAS, INDIA (VWM)			² In the event of a cyclonic storm having developed.		
<i>Area:</i> ¹			1-1700-6C		
(a) Bay of Bengal			RATNAGIRI, INDIA (VWP)		
(b) North Tamil Nadu and South Andhra Coast, 75 km seaward.			<i>Area:</i> ¹		
0918, 1718	485 8674	W ² , S ² , F ²	Maharashtra coasts, North and South Goa Coasts, 75 km seaward.		
0118, 0518, 1318, 2118	500 8674	W ² ³	0900, 1700 0500 ² , 1300 ² , 2100 ²	420.5 420.5 420.5	S, F S, F S, F
0100, 0500,	485	S ³ ⁴ , F ³ ⁴	¹ See figure 23.		
0900, 1300, 1700, 2100			² In the event of a cyclonic storm having developed.		
¹ See figure 23.			1-1710-6C		
² For area ⁴			GOA, INDIA (VWG)		
³ Broadcast in the event of disturbed weather			<i>Area:</i> ¹		
⁴ For area b			South Maharashtra, Goa, and Karnataka coasts, 75 km seaward		
1-1680-6BC			0920, 1720 0520 ² , 1320 ² 2120 ²	417.5 417.5 417.5	S, F S, F S, F
CALCUTTA, INDIA (VWC)			¹ See figure 23.		
<i>Area:</i> ¹			² In the event of a cyclonic storm having developed.		
(a) Bay of Bengal except area bounded by 18°N, 94.5°E; 18°N, 92°E; 13.5°N, 92°E; 13.5°N, 94°E; 10°N, 94°E; 10°N, 95°E; 05°N, 95°E			1-1720-6C		
(b) Orissa coast and west Bengal Coast, 75 km seaward			MANGALORE, INDIA (VWL)		
0630	434 12745	SR ² , LR ³	<i>Area:</i> ¹		
0818 ⁴	do.	W ⁵ , S ⁵ , F ⁵ , A ⁶	Karnataka coast and North Kerala coast, 75 km seaward		
1520	434 8526	SR ² , LR ³	0900, 0920, 1700, 1720	438	S, F
1618 ⁴	434 4286	W ⁵ , S ⁵ , F ⁵ A ⁶	0500 ² , 0520 ² , 1300 ² , 1320 ² , 2100 ² , 2120 ²	438	S, F
0018, 0418, 1218, 2018	500	W ⁷	¹ See figure 23.		
0100, 0500, 0900, 1700, 2100	434	S ⁸ , F ⁸	² In the event of a cyclonic storm having developed		
¹ See figure 23.			1-1730-6C		
² Code FM 21-E			COCHIN, INDIA (VWN)		
³ Code FM 11-E			<i>Area:</i> ¹		
⁴ 3-minute interval for time signal 0827-0830, 1627-1630			North and South Kerala coast, 75 km seaward		
⁵ For area a			0900, 1700 0500 ² , 1300 ² , 2100 ²	460 460 460	S, F S, F S, F
⁶ Code FM 46-D			¹ See figure 23.		
⁷ Broadcast only in event of a tropical storm having developed.			² In the event of a cyclonic storm having developed		
⁸ Broadcast only in event of disturbed weather, for area b			1-1740-6C		
1-1690-6C			TUTICORIN, INDIA (VWT)		
KANDLA, INDIA (VWK)			<i>Area:</i> ¹		
<i>Area:</i> ¹			South Tamil Nadu coast, 75 km seaward		
North Gujarat coast, 75 km seaward					

ANTARCTIC

<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency (kHz)</i>	<i>Contents</i>
1-1830-7A				8195 ³	
ORCADAS, SO. ORKNEY IS. (LOK)				9983 ²	
<i>Area:</i> ¹				11147 ³	
Drake Passage; Bellingshausen and Weddell Seas					
1625	2422.5 ²	W, S, F			
	6454 ²				
			¹ See figure 24		
			² In winter		
			³ In summer		

Section 2-Radiotelephone

Serial No.	Station and abbreviation	Serial No.	Station and abbreviation
NORTH ATLANTIC OCEAN			
0010.....Fort Collins, Colo. (WWV)		0460....Galveston, Tex. (KQP)	
0020.....Ocean Gate, N.J. (WOO)		0470....Corpus Christi, Tex. (KCC)	
0031.....Portsmouth, Va. (NMN)		0475....Aransas, Tex. (NOY-3)	
0040.....Frobisher Bay, N.W.T., Canada (VFF)		0480....Port Isabel, Tex. (NCH)	
0056.....Resolution Is., N.W.T., Canada (VAW)		0490....Swan Island (WSG)	
0060.....Goose Bay, Lab., Canada (VFZ)		0500....Nassau, Bahamas (C6N)	
0070.....Cartwright, Lab., Canada (VOK)		0510....San Juan, Puerto Rico (NMR)	
0080.....St. Anthony, Nfld., Canada (VCM)		0530....Destrelan, French Antilles (FFQ)	
0090....St. John's, Nfld., Canada (VON)		0540....Fort-de-France, Fr. Antilles (FFP)	
0100.....Comfort Cove, Nfld., Canada (VOO)		0550....North Post, Trinidad (9YL)	
0110.....St. Lawrence, Nfld., Canada (VCP)		0560....Willemstad, Curaçao (PJC)	
0120.....Sydney, N.S., Canada (VCO)		0570....Paramaribo, Surinam (PZN)	
0130.....Canso, N.S., Canada (VAX)		0580....Bermuda (ZBM)	
0140.....Stephenville, Nfld., Canada (VOJ)		0590....Julianehab, Greenland (OXF)	
0150.....Charlottetown, P.E.I., Canada (VCA)		0600....Holsteinsborg, Greenland (OYS)	
0160.....Grindstone, Magdalen Is., Canada (VCN)		0610....Upernivik, Greenland (OYN)	
0170.....Fox River, Que., Canada (VCG)		0620....Angmagsalik, Greenland (OZL)	
0180.....Mont Joli, Que., Canada (VCF)		0630....Reykjavik, Iceland (TFA)	
0190.....Quebec, Que., Canada (VCC)		0640....Valentia, Ireland (EJK)	
0200.....Montreal, Que., Canada (VFN)		0650....Oban, Scotland (GNE)	
0210.....Halifax, N.S., Canada (VCS)		0660....Wick, Scotland (GKR)	
0220.....Yarmouth, N.S., Canada (VAU)		0670....Stonehaven, Scotland (GND)	
0230.....Saint John, N.B., Canada (VAR)		0680....Cullercoats, England (GCC)	
0240.....Boston, Mass. (WOU)		0690....Humber, England (GKZ)	
0241.....Boston, Mass. (NMF)		0700....North Foreland, Eng. (GNF)	
0250.....Shinnecock, N.Y. (NMY-41)		0710....Nitton, England (GNI)	
0260.....New York, N.Y. (WOX)		0720....Lands End, England (GLD)	
0261.....Ocean Gate, N.J. (WAQ)		0730....Ilfracombe, England (GIL)	
0270.....Cape May, N.J. (NMK)		0740....Portpatrick, Scotland (GPK)	
0280.....Baltimore, Md. (NMX)		0750....Rorvik, Norway (LGD)	
0300.....Norfolk, Va. (WGB)		0760....Orlandet, Norway (LFO)	
0320.....Fort Macon, N.C. (NMN-37)		0770....Alesund, Norway (LGA)	
0330.....Charleston, S.C. (NMB)		0780....Floro, Norway (LGL)	
0340.....Charleston, S.C. (WJO)		0790....Bergen, Norway (LGN)	
0350....Mayport, Fla. (NMA-10)		0800....Rogaland, Norway (LGQ)	
0360.....Jacksonville, Fla. (WNJ)		0810....Farsund, Norway (LGZ)	
0370.....Miami (Ojus), Fla. (WOM)		0820....Oslo, Norway (LGO)	
0380.....Miami, Fla. (NCF)		0830....Goteborg, Sweden (SAG)	
0390.....Miami, Fla. (WDR)		0840....Karlskrona, Sweden (SAA)	
0391....Key West, Fla. (NOK)		0850....Stockholm, Sweden (SDJ)	
0400.....Tampa, Fla. (WFA)		0860....Tingstade, Sweden (SAE)	
0410.....St. Petersburg, Fla. (NOF)		0870....Harnosand, Sweden (SAH)	
0420.....Mobile, Ala. (WLO)		0880....Märiehamn, Finland (OFH)	
0430.....New Orleans, La. (NMG)		0890....Helsinki, Finland (OHG)	
0440.....New Orleans, La. (WAK)		0900....Gdynia, Poland (SPH)	
0445....Grand Isle, La. (NMG-15)		0910....Rugen, German Dem. Republic (DHS)	
0450.....Galveston, Tex. (NOY)		0920....Kiel, Fed. Republic of Germany (DAO)	
		0930....Ronne, Denmark (OYE)	
		0940....Lyngby, Denmark (OXZ)	

Serial No.	Station and abbreviation	Serial No.	Station and abbreviation
0950.....Skagen, Denmark (OXP)	1340.....Spring Is., B.C., Canada (VAE2)		
0960.....Blaavand, Denmark (OXB)	1350.....Tofino, B.C., Canada (VAE)		
0970.....Norddeich, Fed. Republie of Germany (DAN)	1360.....Comox, B.C., Canada (VAC)		
0980.....Scheveningen, Netherlands (PCH)	1370.....Vancouver, B.C., Canada (VAI)		
0990.....Oostende, Belgium (OSU)	1380.....Victoria, B.C., Canada (VAK)		
1000.....Brest/LeConquet, France (FFU)	1390.....Port Angeles, Wash. (NOW)		
1010.....Saint-Nazaire, France (FFO)	1400.....Seattle, Wash. (KOW)		
MEDITERRANEAN SEA.			
1020.....Valencia, Spain	1410.....Seattle, Wash. (NMW43)		
1030.....Grasse, France (TKM)	1420.....Astoria, Ore. (NMW)		
1040.....Marseilles, France (FFM)	1430.....Astoria, Ore. (KFX)		
1050.....Tripoli, Libyan Arab Republic (SAT)	1450.....Coos Bay Ore. (KTJ)		
1060.....Athens, Greece (SVA)	1451.....Coos Bay Ore (NOE)		
1070.....Bar, Yugoslavia	1460.....Eureka, Calif. (KOE)		
1080.....Split, Yugoslavia	1470.....Humboldt Bay, Calif. (NMC11)		
1090.....Rijeka, Yugoslavia	1480.....San Francisco, Calif. (KLH)		
1100.....Haifa, Israel (4XO)	1481.....Monterey, Calif. (NMC-6)		
SOUTH ATLANTIC OCEAN			
1110.....Cape Town, South Africa (ZSC30)	1490.....Long Beach, Calif. (NMQ)		
1120.....Walvis Bay, South Africa (ZSV4)	1500.....San Pedro, Calif. (KOU)		
1130.....South African Broadcast Corp.	1510.....LaJolla, Calif. (WWD)		
NORTH PACIFIC OCEAN			
1140.....Fort Collins, Colo. (WWV)	1520.....Honolulu, Hawaii (KQM)		
1150.....Kekaha, Hawaii (WWVH)	1530.....Honolulu, Hawaii (NMO)		
1160.....San Francisco, Calif. (NMC)	1540.....Honolulu, Hawaii (KBP)		
1170.....San Francisco, Calif. (KMI)	1541.....Guam, Marianas Is. (NRV)		
1181.....Adak, Alaska (NMJ21)	SOUTH PACIFIC OCEAN		
1190.....Attu, Alaska (NMJ22)	1545.....Kekaha, Hawaii (WWVH)		
1200.....Cape Sarichef, Alaska (NRW)	1547.....Honolulu, Hawaii (KQM)		
1210.....Cold Bay, Alaska (KCI95)	1550.....Mahina, Tahiti		
1220.....King Salmon, Alaska (KC198)	1560.....Suva, Fiji Islands (3DP)		
1230.....Kodiak, Alaska (NOJ)	1570.....Noumea, New Caledonia		
1231.....Kodiak, Alaska (WBH-29)	1580.....Auckland, New Zealand (ZLD)		
1240.....Yukatut, Alaska (KGD91)	1590.....Awarua, New Zealand (ZLB)		
1250.....Ocean Cape, Alaska (NMJ19)	1600.....Chatham Is., New Zealand (ZLC)		
1255.....Mud Bay, Alaska (WRN-43)	1610.....Wellington, New Zealand (ZLW)		
1260.....Juneau, Alaska (KCI97)	1620.....Adelaide, Australia (VIA)		
1261.....Juneau, Alaska (NMJ 1)	1630.....Melbourne, Australia (VIM)		
1262.....Juneau, Alaska (WGG58)	1640.....Sydney, Australia (VIS)		
1270.....Biorka Is., Alaska (NMJ18)	1650.....Brisbane, Australia (VIB)		
1271.....Petersburg, Alaska (WRN-42)	1660.....Townsville, Australia (VIT)		
1272.....Lena Point, Alaska (WRN-40)	1670.....Thursday Is., Australia (VII)		
1279.....Ketchikan, Alaska (WRN-41)	1680.....Darwin, Australia (VID)		
1280.....Ketchikan, Alaska (NMJ)	1690.....Port Moresby, Papua (VIG)		
1281.....Ketchikan, Alaska (WGG56)	1700.....Rabaul, New Britain (VJZ)		
1285.....Sitka, Alaska (WDU-29)	INDIAN OCEAN, RED SEA AND PERSIAN GULF		
1290.....Annette, Alaska (KGD58)	1710.....Cape Town, South Africa (ZSC30)		
1300.....Prince Rupert, B.C., Canada (VAJ)	1720.....Port Elizabeth, South Africa (ZSQ7)		
1310.....Sandspit, B.C., Canada (VAH)	1730.....Durban, South Africa (ZSD)		
1320.....Bull Harbor, B.C., Canada (VAG)	1740.....Port Louis Harbor, Mauritius (3BB)		
1330.....Alert Bay, B.C., Canada (VAF)	1750.....Nairobi, Kenya (5YE)		
	1760.....Jazirat Das (2AI15)		
	1770.....Al Kuwait (9KK)		
	1780.....Broome, Australia (VIO)		
	1790.....Carnarvon, Australia (VIC)		
	1800.....Esperance, Australia (VIE)		

SECTION 2

RADIOTELEPHONE BROADCASTS

Explanatory Notes:

1. Unless otherwise noted, all broadcasts are Greenwich Mean Time (GMT), 24-hour clock (0000-2359). Frequencies listed are carrier frequencies.
2. Emission Classification is shown in parentheses immediately following the frequency. Following is a table of symbols used:

Amplitude Modulation

- A3 - Double sideband
- A3A- Single sideband, reduced carrier
- A3H- Single sideband, full carrier
- A3J - Single sideband, suppressed carrier

Frequency Modulation

F3

3. Contents are indicated as follows:

- A - Analysis
- F - Forecast
- I - Ice report (shore ice)
- IB - International iceberg bulletin
- LR - Synoptic reports (land station)
- P - Prognosis
- S - Synopsis
- SR - Synoptic reports (ship)
- W - Warning
- G - Gulfstream Analysis

5. If a broadcast part is encoded, the code is identified by a footnote.

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
0050, 1205 ¹ See figure 2	2598(A3)	S, F	2-0140-1C STEPHENVILLE, NFLD., CANADA (VOJ)		
2-0080-1C ST. ANTHONY, NFLD., CANADA (VCM)			<i>Area:</i> Newfoundland and Labrador coastal waters		
<i>Area:</i> Newfoundland and Labrador coastal waters			0150, 1103, 2598(A3H) S, F 1703, 2205 161.65MHz(F3) ² See figure 2		
0110, 0905, 1745, 2005 ¹ See figure 2 ² Reports of iceberg sightings, at 0110 & 0905 only	2598(A3H) 161.65MHz(F3)	S, F, IB ²	2-0150-1C CHARLOTTETOWN, P.E.I., CANADA (VCA)		
2-0090-1C ST. JOHN'S, NFLD., CANADA (VON)			<i>Area:</i> Prince Edward Is. coastal waters		
<i>Area:</i> Newfoundland coastal waters, Grand Banks			0210, 1040, 1805, 2205 161.65MHz(F3) S, F ¹ See figure 2		
0050, 0850, 1640, 2020 See figure 2	2598(A3H) 161.65MHz(F3)	S, F, I	2-0160-1C GRINDSTONE, MAGDALEN IS., CANADA (VCN)		
2-0100-1BC COMFORT COVE, NFLD., CANADA (VOO)			<i>Area:</i> Gulf of St. Lawrence		
<i>Area:</i> Newfoundland coastal waters and Northern Grand Banks			0410, 0920, 1735, 2215 2598(A3H) 161.65MHz(F3) ¹ See Figure 2		
0010, 0803 1720, 1945 ¹ See figure 2	2598(A3H) 161.65MHz(F3)	S, F	2-0170-1C FOX RIVER, QUEBEC, CANADA (VCG)		
2-0110-1BC ST. LAWRENCE, NFLD., CANADA (VCP)			<i>Area:</i> Gulf of St. Lawrence, Lower St. Lawrence River		
<i>Area:</i> Newfoundland coastal waters and Grand Banks			0030, 1230, 1740 2598(A3) 2582(A3) 161.9(F3) ¹ See figure 2 ² Coded forecast, MAFOR 61 D		
0320, 0945, 1610, 2120 ¹ See figure 2	2598(A3H) 161.65MHz(E3)	S, F	2-0180-1C MONT JOLI, QUEBEC, CANADA (VCF)		
2-0120-1C SYDNEY, N.S., CANADA (VCO)			<i>Area:</i> Lower and Middle St. Lawrence River		
<i>Area:</i> Nova Scotia and Newfoundland coastal waters			0205, 0805 1405, 2005 2514(A3H) 161.9(F3) 0020, 1220 1735 do 0020, 1220, 1730 do	F ² S, F, I S, F ³ , I	
0040, 0310, 1650, 2050, 2140 0100, 1300 do. ¹ See figure 2	2598(A3H) 161.65MHz(F3)	S, F	¹ See figure 2 ² St. Lawrence Weather Bulletin ³ Coded forecast, MAFOR 61.D		
2-0130-1C CANSO, N.S., CANADA (VAX)			2-0190-1C QUEBEC, QUEBEC, CANADA (VCC)		
<i>Area:</i> Nova Scotia coastal waters			<i>Area:</i> St. Lawrence River		
0345, 0820, 1620, 2145 ¹ See figure 2	2598(A3H) 161.65MHz(F3)	S, F	0010, 1210, 1710 2582(A3) ¹ Coded forecast, MAFOR 61.D	S, F ¹	

RADIOTELEPHONE

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-0200-1C			2-0241-1B		
MONTREAL, QUEBEC, CANADA (VFN)			BOSTON, MASS., U.S.A. (NMF)		
<i>Area:</i>			<i>Area:</i> ¹		
St. Lawrence River			New England Waters: north of 41°N west of 60°W		
0020, 1220, 1720	2582(A3H) 161.9(F3)	S, F ¹ , I, water	0440, 1040 2240	2670(A3J)	F
' Coded forecast, MAFOR 61 D			1640 and on receipt	2670(A3J) 157.1MHz(F3)	W
2-0210-1BC			2-0250-1C		
HALIFAX, N.S., CANADA (VCS)			SHINNECOCK, N.Y., U.S.A. (NMY-41)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Nova Scotia coastal and offshore waters			Coastal waters-Block Island, R.I. to Manasquan, NJ		
0303, 0745, 1550, 2110	2598(A3H) 161.65MHz(F3)	S, F	0020, 0920, 1220, 1520, 1820, 2120	2670(A3J)	F
0205, 0805, 1605, 2205	4451.8 8770 13154.5		On receipt: 0020, 1220	2670(A3J)	W
' See figure 2			' See figure 3		
2-0220-1C			' During boating season, May 15-Oct. 15		
YARMOUTH, N.S., CANADA (VAU)			2-0260-1BC		
<i>Area:</i> ¹			NEW YORK, N.Y., U.S.A. (WOX)		
(a) Nova Scotia coastal waters			<i>Area:</i> ¹		
(b) U.S. coastal waters, Eastport, Maine-Merrimack River			(a) Offshore waters: 32°N-41°N, west of 65°W		
0220, 0910, 1710, 2010	2598(A3H)	S, F	(b) Coastal waters-Block Island, R.I. to Virginia Beach, Va.		
' See figure 2			0015 ² , 1215 ² , 1715 ²	2482(A3H) ³ 2522(A3H) 2590(A3H)	F
2-0230-1C			' See figure 3		
SAINT JOHN, N.B., CANADA (VAR)			' Broadcast 1 hour earlier during Daylight Saving Time		
<i>Area:</i>			' Used daytime only		
Bay of Fundy and Nova Scotia coastal waters			2-0261-1C		
0210, 0810, 1540, 2120	2598(A3H) 161.65MHz(F3)	S, F	OCEAN GATE, N.J., U.S.A. (WAQ)		
2-0240-1BC			<i>Area:</i> ¹		
BOSTON, MASS., U.S.A. (WOU)			(a) Offshore waters: 32°N-41°N, west of 65°W West Central North Atlantic		
<i>Area:</i> ¹			(b) Coastal waters-Block Island, R.I. to Virginia Beach, Va.		
(a) New England Waters: North of 41°N, west of 60°W			0015, 1215	2558(A3H)	F
(b) Offshore waters: 32°N-41°N, west of 65°W			On receipt: even H+15	2558(A3H)	W
(c) Coastal waters-Eastport, Me. to Block Island, R.I.			' See figure 3		
(d) Boston Harbor			2-0270-1C		
0420, 1020	2450(A3H)	F	CAPE MAY, N.J., U.S.A. (NMK)		
	2506(A3H)		<i>Area:</i> ¹		
	2566(A3H)		(a) Coastal waters-Manasquan, N.J. to Virginia Beach, Va.		
1120, 1620, 2220	do.	F ³	(b) Delaware Bay		
			1100, 2300	2670(A3J)	F
			0945 ²	2670(A3J)	F
			1545 ²	157.1	

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
1845 ² , 2145 ² On receipt	2670(A3J) 157.1(F3)	W	0015, 1215 On receipt and odd H thereafter	2566(A3H) 2566(A3H)	F W
' See figure 3					
² During boating season, May 15-Oct 15					
2-0280-1BC			2-0350-1C		
BALTIMORE, MD., U.S.A. (NMX)			MAYPORT, FLA., U.S.A. (NMA-10)		
<i>Area:</i>			<i>Area:</i>		
(a) Offshore Waters: 32°N-41°N, west of 65°W			Coastal waters-Savannah, Ga. to Jupiter Inlet, Fla.		
(b) Lower Potomac River and Chesapeake Bay			0620, 2670(A3J) F, LR ¹		
1750 2670(A3J) F			1820, 157.1MHz(F3) F		
On receipt 2670(A3J) W	157.1MHz(F3)		2210, 1410 2670(A3J) W	157.1MHz(F3)	
2-0300-1BC			' Reports from Jacksonville, Melbourne, Fla. and Savannah		
NORFOLK, VA., U.S.A. (WGB)			2-0360-1C		
<i>Area:</i>			JACKSONVILLE, FLA., U.S.A. (WNJ)		
(a) Offshore waters; 32°N-41°N, west of 65°W			<i>Area:</i>		
(b) Coastal waters-Cape Henlopen, N.J. to Savannah, Ga., including Chesapeake Bay; Lower Potomac River; Hampton Roads; Al- bemarle And Pamlico Sounds.			Coastal waters-Savannah, Ga. to Jupiter Inlet, Fla.		
0500 ² , 1100 ² , 2450(A3H) ³ F			0000, 1200, 2566(A3H) F		
1700 ² , 2300 2538(A3H) do. W			On receipt and even H 2566(A3) W		
On receipt do. W					
' See figure 3			2-0370-1B		
² Broadcast 1 hour earlier during Daylight Saving Time			MIAMI (OJUS), FLA., U.S.A. (WOM)		
³ Used daytime only			<i>Area:</i>		
2-0320-1BC			(a) Caribbean Sea		
FORT MACON, N.C., U.S.A. (NMN-37)			(b) Southwestern No. Atlantic		
<i>Area:</i>			(c) Gulf of Mexico		
(a) Offshore waters: 32°N-41°N, west of 65°W			0430, 1230 4428.6(A3J) F		
(b) Coastal waters-Cape Henlopen, N.J. to Savannah, Ga.			8792.8(A3J)		
1130, 1700 2670(A3J) F			13137(A3J)		
On receipt 2670(A3J) W	157.1MHz(F3)		17325(A3J)		
' See figure 3			22688.5(A3J)		
2-0330-1C			0530, 1130 4422.2(A3J) F		
CHARLESTON, S.C., U.S.A. (NMB)			8796(A3J)		
<i>Area:</i>			13140.5(A3J)		
Coastal waters-Cape Fear, N.C. to St. Augustine, Fla.			17286.5(A3J)		
0420, 1620 2670(A3J) F			22692(A3J)		
1100, 1700, 2200 157.1MHz(F3) F					
On receipt 2670(A3J) W	157.1MHz(F3)				
2-0340-1C					
CHARLESTON, S.C., U.S.A. (WJO)					
<i>Area:</i>					
Coastal waters-Cape Fear, N.C. to Savannah, Ga.					

' See figure 3

Note. A frequency will not be used if other traffic is in progress at broadcast time.

2-0380-1C**MIAMI BEACH, FLA., U.S.A. (NCF)***Area:*

- (a) Coastal waters-Jupiter Inlet, Fla. to Dry Tortugas, including Florida Straits
 - (b) Offshore waters: Southwest North Atlantic
- 0350, 1550 2670(A3J) F

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
1130, 1730 2230, 1330 On receipt	157.1MHz(F3) 2670(A3J) 157.1MHz(F3)	F ² W	2-0420-1BC MOBILE, ALA., U.S.A. (WLO) <i>Area:</i> (a) Offshore waters-Gulf of Mexico; Caribbean Sea; Southwestern No. Atlantic (b) Coastal waters-Florida Straits to Brownsville, Tex.		
¹ See figure 3 ² For area a			0500 ² , 1100 ² , 1700 ² , 2300	2572(A3H) 162.00 MHz(F3)	F
2-0390-1BC MIAMI, FLA., U.S.A. (WDR) <i>Area:</i> Coastal waters-Ponce de Leon to Tarpon Springs, Fla.					
0015, 1215 ²	2442(A3H) ² 2490(A3H) 2514(A3H) ²	F		161.90 do. ¹ See figure 1	W
¹ See figure 3 ² Broadcast 1 hour earlier during Daylight Saving Time ³ Used during daytime only					
2-0391-1C KEY WEST, FLA., U.S.A. (NOK) <i>Area:</i> Coastal waters-Jupiter Inlet to Dry Tortugas, including Florida Straits; Cape Sable to Tarpon Springs, including Florida Bay			2-0430-1BC NEW ORLEANS, LA., U.S.A. (NMG) <i>Area:</i> (a) Offshore waters-Middle Gulf of Mexico; (b) Coastal waters-Biloxi, Miss. to Port Arthur Tex.		
1100, 1700, 2200	157.1MHz(F3)	F	1030, 1230, 1630, 2230	2670(A3J)	F
			1050, 1650, 2250,	157.1 MHz(F3)	F
			On receipt	2670(A3J)	W
			¹ See figure 3		
2-0400-1BC TAMPA, FLA., U.S.A. (WFA)/KUZ 385 <i>Area:</i> (a) East Gulf of Mexico (b) Coastal waters-Florida Straits to Apalachicola, Fla.			2-0440-1BC NEW ORLEANS, LA., U.S.A.(WAK) <i>Area:</i> (a) Offshore waters-Gulf of Mexico, Caribbean Sea (b) Coastal waters-Apalachicola, Fla. to Port Arthur, Tex.		
0000 ² , 1200 ²	2466(A3H) 2550(A3H) 161.8MHz(F3)	F	0500 ² , 1400 ²	2482(A3H) 2598(A3H) 4419(A3H)	F
On receipt and odd H	do.	W	On receipt and on odd H	do.	W
¹ See figure 3 ² Broadcast 1 hour earlier during Daylight Saving Time			¹ See figure 3 ² Broadcast 1 hour earlier during Daylight Saving Time		
2-0410-1BC T. PETERSBURG, FLA., U.S.A. (NMA-21) <i>Area:</i> (a) East Gulf of Mexico (b) Coastal waters Key Largo to Aplachicola, Fla. including Florida Straits			2-0445 GRAND ISLE, LA. U.S.A. (NMG-15) <i>Area:</i> Costal Waters, Biloxi, Miss to Morgan City, La.		
320 1420	2670(A3J)	W F	1045, 1645 2245	157.1MHz(F3)	F
250, 1450 2250	157.1(F3)	F	2-0450-1BC GALVESTON TEX., U.S.A.(NOY) <i>Area:</i> (a) Offshore waters-Middle and Western Gulf of Mexico		
¹ See figure 3					

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
(b) Coastal waters-Morgan City, La. to Brownsville, Tex. 1050, 1250, 1650, 2250 On receipt ¹ See figure 3	2670(A3J)	F	1705 and on request ¹ Swan Island report	2738(A3)	F, LR ¹
2-0460-1BC			2-0500-1BC		
GALVESTON, TEX., U.S.A.(KQP)			NASSAU, BAHAMAS(C6N)		
<i>Area:</i> (a) Offshore waters-Middle and Mexico			<i>Area:</i> All Bahamas and Adjacent Waters		
(b) Coastal waters-Morgan City, La. to Brownsville, Tex. 0600 ² , 1800 ² On receipt and odd H015	2450(A3H) 2530(A3H)	F	H000 ¹ 2558(A3)	W ²	¹ Local Time ² Hurricane warnings
¹ See figure 3 ² Broadcast 1 hour earlier during Daylight Saving Time					
2-0470-1BC			2-0510-1BC		
CORPUS CHRISTI, TEX., U.S.A.(KCC)			SAN JUAN, PUERTO RICO (NMR)		
<i>Area:</i> Western Caribbean Sea; Gulf of Mexico; Coastal waters-Morgan City to Brownsville, Tex.			<i>Area:</i> Eastern Caribbean Sea including Puerto Rico, Virgin Islands and Adjacent Waters		
0000, 1200 2538(A3H) On receipt 2538(A3)		F	0305, 1505 2670(A3J) On receipt 2670(A3J)	F	
¹ See figure 3			1110, 1710 157.1MHz(F3) 2210	W	
2-0475					
PORT ARANSAS, TEX. U.S.A. (NOY-3)			2-0530-1B		
<i>Area:</i> Port Arthur, Tex to Brownsville, Tex. (040) 1645 157.1MHz(F3) 2245			DESTRELLAN, FRENCH ANTILLES (FFQ)		
2-0480-1BC			<i>Area:</i> Caribbean Sea and Atlantic Ocean 10°N-20°N, 50°W -70°W		
PORT ISABEL, TEX., U.S.A.(NCH)			On receipt 2255(A3) ¹ (1200-2400)	W ²	
<i>Area:</i> (a) Western Gulf of Mexico; (b) Coastal waters-Port O'Connor, Tex. to Brownsville, Tex. 1040 ² , 1240 ² , 1640, 2240 1035, 1635 2235 On receipt 2670(A3J)	2670(A3J)	F ²	¹ Preceded by announcement on 2182 kHz ² In French, repeated in English		
¹ See figure 3					
2-0490-1B			2-0540-1B		
SWAN ISLAND(WSG)			FORT-DE-FRANCE, FRENCH ANTILLES(FFP)		
<i>Area:</i> Eastern Gulf of Mexico and Western Caribbean Sea			<i>Area:</i> Caribbean Sea and Atlantic Ocean 10°N-20°N, 50°W-70°W		
			On receipt and odd H033	W ¹	
			¹ In French, repeated in English.		
			2-0550-1B		
			NORTH POST, TRINIDAD (9YL)		
			<i>Area:</i> Caribbean Sea, Antilles, and Atlantic Waters to east		
			1250, 1850 2522(A3) 2735(A3) 3165(A3) 4403(A3) 8805.6(A3)	W	
			do. 157.30(F3) 157.35(F3) 161.95(F3)	W	

² For area a and b¹ For area b

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-0560-1B			2-0630-1C		
WILLEMSTAD, CURACAO(PJC)			REYKJAVIK, ICELAND(TFA)		
<i>Area:</i>			<i>Area:</i>		
Caribbean Sea and North Atlantic, Equator- 25°N, west of 45°W			Coastal waters of Iceland 63°N-67.5°N, 12°W- 27°W		
1200 ¹ , 2300 ¹	2182(A3) 8770.4(A3)	W	On receipt	2182(A3)	W ²
			On request	1876(A3)	I ³ , S ³ ,
July 15-Nov. 14 only				2761(A3)	F ³
			² In Icelandic repeated in English		
			³ In English		
2-0570-1B			2-0640-1BC		
PARAMARIBO, SURINAM(PZN)			VALENTIA, IRELAND (EJK)		
<i>Area:</i>			<i>Area:</i> ¹		
North Atlantic waters, 05°N-15°N, 45°W-60°W			Coastal waters of Ireland		
1233, 2133	2182(A3) 2818	W, A	0833, 2033	1827(A3)	F ² ³
			0303, 0903,	1827(A3)	W ³
			1503, 2103		
			¹ See figure 4		
			² For Shannon & Fastnet areas		
			³ Transmitted at conversational speed then repeated at dictation speed		
2-0580-1B			2-0650-1BC		
BERMUDA(ZBM)			OBAN, SCOTLAND (GNE)		
<i>Area:</i>			<i>Area:</i> ¹		
(a) Western North Atlantic			Northwestern coastal waters of United Kingdom		
(b) Local Bermuda waters.			0803, 2003	2740(A3)	F ² ³
1235, 2035	2582(A3)	LR, F	0303, 0903,	2740(A3)	W ³
0118, 0518	157.3(F3)		1503, 2103		
1318, 1718			¹ See figure 4		
On receipt	2582(A3)	W	² For Malin, Hebrides, Bailey and Rockall areas		
			³ Transmitted at conversational speed then repeated at dictation speed		
2-0590-1C			2-0660-1BC		
JULIANEHAB, GREENLAND(OXF)			WICK, SCOTLAND (GKR)		
<i>Area:</i>			<i>Area:</i> ¹		
Coastal waters, southern Greenland			Northern coastal waters of United Kingdom		
0135, 1335,	2129(A3)	F	0803, 2003	1827(A3)	F ² ³
1935			0303, 0903,	1827(A3)	W ³
			1503, 2103		
			¹ See figure 4		
			² For South-East Iceland, Faeroes, Hebrides, Fair Isle, Viking, and Cromarty areas		
			³ Transmitted at conversational speed then repeated at dictation speed		
2-0600-1C			2-0670-1BC		
HOLSTEINSBORG, GREENLAND(OYS)			STONEHAVEN, SCOTLAND (GND)		
<i>Area:</i>			<i>Area:</i> ¹		
Coastal waters, western Greenland			Eastern coastal waters of United Kingdom		
0145, 1345,	2265(A3)	F	0833, 2033	1856(A3)	F ² ³
1945			0303, 0903,	1856(A3)	W ³
			1503, 2103		
			¹ See figure 4		
			² For Forth, Cromarty, and Forties areas		
			³ Transmitted at conversational speed then repeated at dictation speed		
2-0610-1C					
UPERNAVIK, GREENLAND(OYN)					
<i>Area:</i>					
Coastal waters, western Greenland					
0205, 1405,	3276(A3)	F			
2005					
2-0620-1C					
ANGMAGSSALIK, GREENLAND(OZL)					
<i>Area:</i> ¹					
Coastal waters, eastern Greenland					
0125, 1325,	2250(A3)	F			
1925, 0725	2288				

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-0680-1BC			2-0730-1BC		
CULLERCOATS, ENGLAND (GCC)			ILFRACOMBE, ENGLAND (GIL)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Eastern coastal waters of United Kingdom			Western coastal waters of United Kingdom		
0803, 2003 2719(A3) F ^{2 3}			0833, 2033 2670(A3) F ^{2 3}		
0303, 0903, 2719(A3) W ³			0303, 0903, 2670(A3) W ³		
1503, 2103			1503, 2103		
¹ See figure 4			¹ See figure 4		
² For Tyne, Dogger, Fisher areas			² For Lundy and Fastnet areas		
³ Transmitted at conversational speed then repeated at dictation speed			³ Transmitted at conversational speed then repeated at dictation speed		
2-0690-1BC			2-0740-1BC		
HUMBER, ENGLAND (GKZ)			PORTPATRICK, SCOTLAND (GPK)		
<i>Area:</i> ¹			<i>Area:</i> ¹		
Eastern coastal waters of United Kingdom			Irish Sea		
0833, 2033 1869(A3) F ^{2 3}			0833, 2033 1883(A3H) F ^{2 3}		
0303, 0903, 1869(A3) W ³			0303, 0903, 1883(A3H) W ³		
1503, 2103			1503, 2103		
¹ See figure 4			¹ See figure 4		
² For Humber and German Bight areas			² For Irish Sea and Lundy areas		
³ Transmitted at conversational speed then repeated at dictation speed			³ Transmitted at conversational speed then repeated at dictation speed		
2-0700-1BC			2-0750-1C		
NORTH FORELAND, ENGLAND (GNF)			RORVIK, NORWAY (LGD)		
<i>Area:</i> ¹			<i>Area:</i>		
Southeastern coastal waters of United Kingdom			Norwegian coastal waters, Froya-Rorvik-Melbu		
0803, 2003 1848(A3) F ^{2 3}			On receipt 1757(A3H) W		
0303, 0903, 1848(A3) W ³			161.9 MHz(F3)		
1503, 2103			On request do. F		
¹ See figure 4			2-0760-1C		
² For Thames, Dover, and Wight areas			ORLANDET, NORWAY (LFO)		
³ Transmitted at conversational speed then repeated at dictation speed			<i>Area:</i>		
2-0710-1BC			Norwegian coastal waters, Stad-Rorvik		
NITON, ENGLAND (GNI)			On receipt 2635(A3H) W		
<i>Area:</i> ¹			161.8MHz(F3)		
English Channel waters			161.95MHz(F3)		
0833, 2033 1834(A3) F ^{2 3}			162.00MHz(F3)		
0303, 0903, 1848(A3) W ³			On request do. F		
1503, 2103			2-0770-1C		
¹ See figure 4			ALESUND, NORWAY (LGA)		
² For Portland and Wight areas			<i>Area:</i>		
³ Transmitted at conversational speed then repeated at dictation speed			Norwegian coastal waters, Lindesnes-Rorvik		
2-0720-1BC			On receipt 1722(A3H) W		
LANDS END, ENGLAND (GLD)			161.9MHz(F3)		
<i>Area:</i> ¹			On request do. F		
Southwestern coastal waters of United Kingdom			2-0780-1C		
0803, 2003 1841(A3) F ^{2 3}			FLORO, NORWAY (LGL)		
0303, 0903, 1841(A3) W ³			<i>Area:</i>		
1503, 2103			Norwegian coastal waters, Lindesnes-Rorvik		
¹ See figure 4			On receipt 2649(A3H) W		
² For Lundy, Plymouth, Biscay and Finisterre areas			161.95MHz(F3)		
³ Transmitted at conversational speed then repeated at dictation speed			162.00MHz(F3)		

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
On request	do.	F	0954, 2154	2789(A3)	F
2-0790-1C			1154, 1954	2789(A3)	I
BERGEN, NORWAY (LGN)			On receipt	2789(A3)	W
<i>Area:</i>					
Norwegian coastal waters, Lindesnes-Rorvik			2-0850-1B		
On receipt	1743(A3H)	W	STOCKHOLM, SWEDEN (SDJ)		
	161.85MHz(F3)		<i>Area:</i>		
	161.75, 161.95		Oresund; Sea of Bothnia, Sea of Aland; northern, central, and southern Baltic		
On request	do.	F	0933	2754(A3)	F
2-0800-1C				1778(A3) ¹	
ROGALAND, NORWAY (LGQ)				1771	
<i>Area:</i>			1333	do.	I
Norwegian coastal waters, Lindesnes-Rorvik			2133	do.	F, I
On receipt	1729(A3H)	W	On receipt	do.	W
	161.80MHz(F3)				
	161.95MHz(F3)		2-0860-1B		
On request	do.	F	TINGSTADE, SWEDEN (SAE)		
2-0810-1C			<i>Area:</i>		
FARSUND, NORWAY (LGZ)			Sea of Aland; northern, central, and southern Baltic; Oresund		
<i>Area:</i>			1006, 2206	2768(A3)	F
Norwegian coastal waters, Swedish border-Lin- desnes-Bulandet			1203, 2009	2768(A3)	I
On receipt	1750(A3H)	W	On receipt	2768(A3)	W
	2663(A3H)				
	161.85MHz(F3)		2-0870-1B		
	161.95MHz(F3)		HARNOSAND, SWEDEN (SAH)		
On request	do.	F	<i>Area:</i>		
2-0820-1C			Sea and Bay of Bothnia, Sea of Aland		
OSLO, NORWAY (LGO)			0833	2733(A3)	F
<i>Area:</i>				2761(A3)	
Norwegian coastal waters, Swedish border-Lin- desnes			1133	do.	I
On receipt	2649(A3H)	W	2157	do.	F, I
	161.80MHz(F3)		On receipt	do.	W
	161.95MHz(F3)				
On request	do.	F	2-0880-1B		
2-0830-1B			MARIEHAMN, FINLAND (OFH)		
GOTEBORG, SWEDEN (SAG)			<i>Area:</i>		
<i>Area:</i>			Northern Baltic Sea and Sea of Bothnia		
Skagerrak, Kattegat and southern Baltic			0735, 1335	1852(A3)	I
On request	1785(A3) ¹	F, I	1035, 1935	1852(A3)	F
	1904(A3) ²				
On receipt	do.	W	2-0890-1B		
			HELSINKI, FINLAND (OHG)		
¹ For ships in North Sea, Skagerrak & northern Kattegat			<i>Area:</i>		
² For ships in southern Kattegat			Gulf of Finland		
2-0840-1B			0703, 1303	2810(A3)	I
KARLSKRONA, SWEDEN (SAA)			1003, 1903	2810(A3)	F
<i>Area:</i>					
Southern Baltic			2-0900-1B		
			GDYNIA, POLAND (SPH)		
			<i>Area:</i>		
Baltic Sea			0735, 1335,	1818(A3)	S, F
			2135		

¹ For ships in North Sea, Skagerrak & northern Kattegat

² For ships in southern Kattegat

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-0910-1B			<i>Area:</i>		
RUGEN, GERMAN DEMOCRATIC REPUBLIC (DHS)			German Bight		
0810, 2010	1719(A3)	S, F	0810, 2010; On receipt and H+03 or H+33	2614(A3)	W
<i>Area:</i>			2-0980-1C		
Western and mid-Baltic			SCHEVENINGEN, NETHERLANDS (PCH)		
0810; 2010	1719(A3)	S, F	<i>Area:</i>		
2-0920-1B			Netherlands coastal waters, North Sea		
KIEL, FED. REPUBLIC of GERMANY (DAO)			0340, 0940	1869(A3)	W, S, F, LR
<i>Area:</i>			1540, 2140	1939(A3) 2824(A3)	W
German coastal waters, Baltic Sea			Odd H+05	do.	W
0840, 2040,	2775(A3)	W	On receipt and H+03 or H+33	do.	W
On receipt			¹ Dutch Ice Code		
2-0930-1BC			2-0990-1C		
RONNE, DENMARK (OYE)			OOSTENDE, BELGIUM (OSU)		
<i>Area:</i>			<i>Area:</i>		
Danish coastal waters; the Skagerrak; North Sea			Belgian coastal waters; Dover and Thames areas		
On receipt and odd H+33	2586(A3)	W	0103, 0803		
2-0940-1BC			1303, 1603		
LYNGBY, DENMARK (OXZ)			2103	2761(A3H)	F
<i>Area:</i>			¹ See Figure 4		
Danish coastal waters; The Skagerrak; North Sea			2-1000-1BC		
On receipt and odd H+03	1687(A3) 1806(A3)	W	BREST/LE CONQUET, FRANCE (FFU)		
2-0950-1BC			<i>Area:</i>		
SKAGEN, DENMARK (OXP)			(a) Western Channel and coastal waters of France		
<i>Area:</i>			(b) Coastal waters of Portugal		
Danish coastal waters; The Skagerrak; North Sea			0733, 1633, 2153	1673(A3) 2691(A3) 1876(A3)	S, F ^{2,3}
On receipt and odd H+03	1701(A3) 2740(A3)	W	0600	1673(A3) 1876(A3)	S, F ^{3,4}
2-0960-1C			¹ See figure 4a		
BLAAVAND, DENMARK (OXB)			² For area a		
<i>Area:</i>			³ In French		
Danish coastal waters; The Skagerrak; North Sea			⁴ For area b		
On receipt and odd H+03	1813(A3) 2593(A3)	W	2-1010-1BC		
2-0970-1BC			SAINT-NAZAIRE, FRANCE (FFO)		
NORDDEICH, FED. REPUBLIC of GERMANY (DAN)			<i>Area:</i>		
			Western Channel and coastal waters of France		
			0903, 1803	1722(A3)	S, F ²
			¹ See figure 4a		
			² In French		

MEDITERRANEAN SEA

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-1020-2B			2-1060-2B		
VALENCIA, SPAIN			ATHENS, GREECE (SVA)		
<i>Area:</i> ¹			<i>Area:</i>		
Baleares, Palos, Alboran areas (Western Mediterranean)			Greek waters; Mediterranean Sea 15°E-35°E		
2000 1680(A3)		W	0713, 0933, 2590(A3) S, F		
¹ See figure 5			1503, 2103		
2-1030-2C			1215, 2015 8796		
GRASSE, FRANCE (TKM)			2-1070-2B		
<i>Area:</i> ¹			BAR, YUGOSLAVIA (Bar Radio)		
Western Mediterranean Sea, north of 40°N, east to 11°E			<i>Area:</i>		
0733, 1233, 2649(A3)		S, F ²	Adriatic Sea		
1645			0850, 1450, 2670(A3) S, F		
¹ See figure 4a			2050		
² In French			2-1080-2B		
2-1040-2C			SPLIT, YUGOSLAVIA (Split Radio)		
MARSEILLES, FRANCE (FFM)			<i>Area:</i>		
<i>Area:</i> ¹			Adriatic Sea		
Western Mediterranean Sea, north of 40°N, east to 11°E			0545, 1245, 2685(A3) S, F		
0705, 1220, 1906(A3)		S, F ²	1945		
1615			2-1090-2B		
¹ See figure 4a			RIJEKA, YUGOSLAVIA (Rijeka Radio)		
² In French			<i>Area:</i>		
2-1050-2B			Adriatic Sea		
TRIPOLI, LIBYAN ARAB REPUBLIC (SAT)			0535, 1435, 2771(A3) S, F		
<i>Area:</i>			1935		
Waters 10°E-25°E, south of 34°N			2-1100-2B		
0833, 1733 2197(A3)		S, F	HAIFA, ISRAEL (4XO)		
0948, 1748 2182(A3J)		W	<i>Area:</i>		
			Mediterranean Sea east of 25°E		
			0703, 1903 2649(A3) F		
			0303, 1103, 2182(A3) W		
			1503, 2303		

SOUTH ATLANTIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-1110-3C			1333	1765(A3)	LR
CAPE TOWN, SOUTH AFRICA (ZSC 30)			2-1130-3C		
<i>Area:</i>			SOUTH AFRICAN BROADCAST CORPORATION		
Coastal waters, Orange River-East London					
0948, 1748	1765(A3)	F			
1333	1765(A3)	LR			
2-1120-3C					
WALVIS BAY, SOUTH AFRICA (ZSV4)					
<i>Area:</i>					
Coastal waters, Cunene River-Orange River					
0933, 1633	1765(A3)	F			
1135	5995(A3)	F			
	9680(A3)				
	11790(A3)				
2105	3965(A3)	F			
	4965(A3)				

NORTH PACIFIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-1140-4A			0200, 1400	2670(A3H)	F ²
FORT COLLINS, COLORADO (WWV) ¹			¹ See figure 12 ² For area d only		
<i>Area:</i>					
North Pacific east of 140°W					
H+10		S, W ²			
	2500(A3)				
	5000(A3)				
	10000(A3)				
	15000(A3)				
¹ National Bureau of Standards time and frequency station					
² Storm information message gives location and movement of storm centers and associated wind speed.					
³ Extra time slot available					
2-1150-4A					
KEKAHA, HAWAII (WWVH) ¹					
<i>Area:</i>					
North Pacific Ocean.					
South Pacific Ocean					
H+48,	2500(A3)	S, W ²			
H+49,	5000(A3)				
H+50 ³	10000(A3)				
	15000(A3)				
¹ National Bureau of Standards time and frequency station					
² Storm information message gives location and movement of storm centers and associated wind speed.					
³ Broadcast segments of 45 seconds duration are separated by 15-second intervals.					
⁴ Extra time slot available					
2-1160-4ABC					
SAN FRANCISCO, CALIF., U.S.A. (NMC)					
<i>Area:</i> ¹					
(a) North Pacific, Equator-30°N, east of 140°W					
(b) North Pacific, north of 30°N, east of 160°E					
(c) Offshore Waters, 20-250 miles from shore, Mexican Border-Cape Flattery, Wash.					
(d) Coastal waters, Pt. St. George, Calif.-Pt. Conception, Calif.					
0430, 1030,	4393.4(A3J)	S, F			
1230,	8760.8(A3J)				
	13144(A3J)				
1630, 2230	8760.8(A3J)	S, F			
	13144(A3J)				
	17290(A3J)				
1530, 1900,	157.1 MHz(F3)	F ²			
2330					
¹ See figure 10.					
2-1181-4C					
ADAK, ALASKA (NMJ21)					
<i>Area:</i> ¹					
Alaskan coastal waters, Cape Sarichef-Attu					
0030, 0530,		2670(A3H)	S, F		
1340, 1730					
¹ See figure 10.					
2-1190-4C					
ATTU, ALASKA, U.S.A. (NMJ22)					
<i>Area:</i> ¹					
Alaskan coastal waters, Cape Sarichef-Attu (Areas 12 and 13)					
0045, 0545,		2670(A3H)	S, F		
1350, 1745					
¹ See figure 10.					
2-1200-4C					
CAPE SARICHEF, ALASKA, U.S.A. (NRW)					
<i>Area:</i> ¹					
Alaskan coastal waters, Castle Cape-Adak; Cape Sarichef-Port Heiden and Bristol Bay (Areas 5, 6, and 12)					
0015, 0515,		2670(A3H)	S, F		
1310, 1715					
¹ See figure 10.					

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-1210-4C			2100		
COLD BAY, ALASKA, U.S.A. (KCI95)			2-1260-4C		
<i>Area:</i> Alaskan coastal waters, Areas 3, 5, 6, 7, 8, 12, 13			JUNEAU, ALASKA, U.S.A. (KCI97)		
0500, 1700 2512(A3) 0800, 2200 4134.9		S, F	<i>Area:</i> Alaskan coastal waters, Area 1		
¹ See figure 10			0600, 1900 2382(A3)		S, F
2-1220-4C			¹ See figure 10		
KING SALMON, ALASKA, U.S.A. (KCI98)			2-1261-4C		
<i>Area:</i> Alaskan coastal waters, Areas 5, 6, 7, 8			JUNEAU, ALASKA, U.S.A. (NMJ 1)		
0215 ² , 2015 ² 2382(A3)		S, F	<i>Area:</i> Alaskan coastal waters-Skagway to Dixon En-		
¹ See figure 10 ² May-Sept.			trance		
2-1230-4C			0100, 0700 2670(A3H)		S, F
KODIAK, ALASKA, U.S.A. (NOJ)			1300, 1900 157.1MHz(F3)		
<i>Area:</i> Gulf of Alaska;			¹ See Figure 10		
Alaskan coastal waters, Areas 2, 3, 4, 5, 6			2-1262-4C		
0200, 0445, 2670(A3H) 0900, 1415, 6521.8(A3J) 1645, 2100		S, F	JUNEAU, ALASKA, U.S.A. (WGG58)		
¹ See figure 10			<i>Area:</i> Alaskan coastal waters, Area 1		
2-1231			0230, 1630 2400 (A3)		S, F
KODIAK, ALASKA (WBH-29)			2100, 0430 1430		
<i>Area:</i> <i>Gulf of Alaska</i>			¹ See figure 10		
0400, 1800 4134.9(A3)		W, F	2-1270-4C		
2-1240-4BC			BIORKA ISLAND, ALASKA, U.S.A. (NMJ18)		
YAKUTAT, ALASKA, U.S.A. (KGD91)			<i>Area:</i> Alaskan coastal waters, Areas 1 and 2		
<i>Area:</i> Alaskan coastal waters, Areas 1 and 2; Gulf of			0100, 0800 2670(A3H)		S, F
Alaska			1300, 2000		
0900, 2100 2382(A3)		S, F	¹ See figure 10		
0300, 1600 4134.9			2-1271		
¹ See figure 10			PETERSBURG, ALASKA (WRN-42)		
2-1250-4C			<i>Area:</i> <i>Southeast Alaska Coastal Waters, Area 1</i>		
OCEAN CAPE, ALASKA, U.S.A. (NMJ19)			0230, 0430 162.0MHz(F3)		F
<i>Area:</i> Alaskan coastal waters, Areas 1 and 2			1430, 1630 2100		
0145, 0845, 2670(A3H) 1345, 2045 157.1MHz(F3)		S, F	2-1272		
¹ See figure 10.			LENA POINT, ALASKA (WRN-40)		
2-1255			<i>Area:</i> <i>Southeast Alaska Coastal Waters, Area 1</i>		
MUD BAY, ALASKA (WRN-43)			0230, 0430 162.0MHz(F3)		F
<i>Area:</i> <i>Southeast Alaska Coastal Waters, Area 1</i>			1430, 1630 2100		
0230, 0430, 162.0MHz(F3) 1430, 1630		F	2-1279		
			KETCHIKAN, ALASKA (WRN-41)		
			<i>Area:</i> <i>Southeast Alaska Coastal Waters, Area 1</i>		
			0230, 0430 162.0MHz(F3)		F
			1430, 1630		

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2100			2-1320-4C		
2-1280-4C			BULL HARBOR, B.C., CANADA (VAG)		
KETCHIKAN, ALASKA, U.S.A. (NMJ)			<i>Area:</i>		
<i>Area:</i> ¹			Coastal waters of British Columbia		
Alaskan coastal waters, Areas 1 and 2			0225, 1220 1630(A3H) S, F, LR		
0115, 0815, 2670(A3H) S, F			1455, 1540, 161.65MHz(F3)		
1315, 2015			1705, 1940 161.9MHz(F3)		
¹ See figure 10					
2-1281-4C					
KETCHIKAN, ALASKA, U.S.A. (WGG 56)			2-1330-4C		
<i>Area:</i> ¹			ALERT BAY, B.C., CANADA (VAF)		
Alaskan coastal waters, Area 1			<i>Area:</i>		
0230, 0430, 1430 2312(A3) S, F			Coastal waters of British Columbia		
1630, 2100			0420, 1405, 1630(A3h) S, F, LR		
¹ See figure 10			1520, 1920 161.65MHz(F3)		
			161.9MHz(F3)		
			¹ See figure 11		
2-1285			2-1340-4C		
SITKA, ALASKA (WDU-29)			SPRING ISLAND, B.C., CANADA (VAE2)		
<i>Area: Alaskan Coastal Waters, Area 1.</i>			<i>Area:</i>		
0230, 0430 2400 (A3) S, F			Queen Charlotte Sound, West Coast Vancouver		
1430, 1630			Island		
2100			0510, 1425, 2110 1630(A3) S, F, LR		
			1235		
2-1290-4BC			¹ See figure 11		
ANNETTE, ALASKA, U.S.A. (KGD58)			2-1350-4C		
<i>Area:</i> ¹			TOFINO, B.C., CANADA (VAE)		
Alaskan coastal waters, Area 1; Gulf of Alaska			<i>Area:</i>		
1000, 2200 2382(A3) S, F			Coastal waters of British Columbia between		
0200, 1500 4134.9			48.5°N And 52°N		
			0350, 1330, 1440, 1930 1630(A3H) S, F, LR		
¹ See figure 10			161.65MHz(F3)		
			161.9MHz(F3)		
			¹ See figure 11		
2-1300-4C			2-1360-4C		
PRINCE RUPERT, B.C., CANADA (VAJ)			COMOX, B.C., CANADA (VAC)		
<i>Area:</i>			<i>Area:</i>		
Hecate Strait and Dixon Entrance			Queen Charlotte Strait, Johnstone Strait, Juan		
0340, 0845, 1630(A3H) S, F, LR			de Fuca Strait, Strait of Georgia		
1305, 1550, 161.65MHz(F3)			0435, 1435, 1720, 2040 1630(A3) S, F, LR		
1840, 2150 161.9MHz(F3)			161.65MHz(F3)		
			161.9MHz(F3)		
2-1310-4C			2-1370-4C		
SANDSPIT, B.C., CANADA (VAH)			VANCOUVER, B.C., CANADA (VAI)		
<i>Area:</i>			<i>Area:</i>		
Queen Charlotte Sound, Hecate Strait, Dixon			Juan de Fuca Strait, Strait of Georgia		
Entrance, West Coast Charlotte Is.			0410, 1310, 1610, 1910 1630(A3H) S, F, LR		
0520, 0940, 1630(A3H) S, F, LR			161.65MHz(F3)		
1240, 1735, 161.9MHz(F3)			2210, 2310 161.9MHz(F3)		
1850, 2220					

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-1380-4C			0515, 1715	2598(A3H)	S, F, LR
VICTORIA, B.C., CANADA (VAK)			2-1440-4C		
<i>Area:</i>			2-1450-4C		
West Coast Vancouver Is., Juan de Fuca Strait, Strait of Georgia			COOS BAY, ORE., U.S.A. (KTJ)		
0420, 1250, 1630(A3H)		S, F, LR	<i>Area:</i>		
1415, 2010 161.65MHz(F3)			Coastal waters, Tatoosh Is.-Pt. St. George, Calif.		
2250 161.9MHz(F3)			1730 2566(A3H)	S, F, LR	
2-1390-4C			2-1451-4C		
PORT ANGELES, WASH., U.S.A. (NOW)			COOS BAY, ORE., U.S.A. (NOE)		
<i>Area:</i>			<i>Area:</i>		
Strait of Juan de Fuca, Inland Waters of Western Washington			coastal waters, Tatoosh Is.-Pt. St. George, Calif.		
0545, 1745 2670(A3J)		S, F, LR	1215 2670(A3J)	F	
0530, 1730 157.1MHz(F3)		F	0520, 0530, 157.1MHz(F3)	F	
			0540,		
			1720, 1730,		
			1740		
2-1400-4C			2-1460-4C		
SEATTLE, WASH., U.S.A. (KOW)			EUREKA, CALIF., U.S.A. (KOE)		
<i>Area:</i>			<i>Area:</i>		
Inland Waters of western Washington; Strait of Juan de Fuca; Coastal waters, Tatoosh Is.- Pt. St. George, Calif.			Coastal waters, Pt. St. George, Calif.-Pt. Con- ception, Calif.		
0500 1, 1700 1 2522(A3H)		S, F, LR	0445, 1645, 2450(A3H)	S, F, LR	
' Broadcast 1 hour earlier during Daylight Saving Time			2145 2506(A3H)		
2-1410-4C			On receipt and do.	W	
			odd hours		
SEATTLE, WASH., U.S.A. (NMW43)			2-1470-4C		
<i>Area:</i>			HUMBOLDT BAY, CALIF., U.S.A. (NMC11)		
Inland Waters of Western Washington			<i>Area:</i>		
1700 157.1MHz(F3)		F	Coastal waters, Pt. St. George, Calif.-Pt. Con- ception, Calif.		
2-1420-4C			0300, 1500 2670(A3J)	F	
ASTORIA, ORE., U.S.A. (NMW)			1545, 2315 157.1 MHz(F3)	W	
<i>Area:</i>			2-1480-4C		
Coastal waters, Tatoosh Is.-Pt. St. George, Calif.; Strait of Juan de Fuca; Inland Waters of western Washington			SAN FRANCISCO, CALIF., U.S.A. (KLH)		
0530, 1730 2670(A3J)		S, F, LR	<i>Area:</i>		
1200			Coastal waters Pt. St. George, Calif.-Pt. Concep- tion, Calif.		
0515, 1715 157.1MHz(F3)		F	0430, 1630, 2450(A3H)	S, F	
2-1430-4C			2130 2506(A3H)		
ASTORIA, ORE., U.S.A. (KFX)			2-1481-4C		
<i>Area:</i>			MONTEREY, CALIF., U.S.A. (NMC6)		
Coastal waters; Tatoosh Is.-Pt. St. George, Calif.			<i>Area:</i>		
			Coastal waters, Pt. Conception, Calif.-Mexican Border		
			0330, 1530; 2670(A3J)	W	
			On receipt,		

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
1545, 2345	157.1 MHz(F3)	F			
2-1490-4C					
LONG BEACH, CALIF., U.S.A. (NMQ)					
<i>Area:</i>					
Coastal waters, Pt. Conception, Calif.-Mexican Border					
0500, 1430, 1900, 2300	2670(A3J) 157.1MHz(F3)	S, F, LR W			
2-1500-4C					
SAN PEDRO, CALIF., U.S.A. (KOU)					
<i>Area:</i>					
Coastal waters, Pt. Conception, Calif.-Mexican Border					
0400, 1600	2466(A3H) 2566(A3H)	S, F			
¹ Used in daytime only.					
2-1510-4B					
LA JOLLA, CALIF., U.S.A. (WWD)					
<i>Area:</i>					
Offshore waters (20-250 Miles Offshore) from Cape Flattery, Wash. to Guadalupe Is.					
0245, 1300	4409.4(A3J) 8789.6(A3J) 13147.5(A3J)	S, F			
¹ Broadcast Mon.-Fri., June 15-Oct. 15.					
² See figure 12.					
2-1520-4A					
HONOLULU, HAWAII, U.S.A. (KQM)					
<i>Area:</i>					
(a) North Pacific: Equator-50°N, 140°W-160°E					
(b) South Pacific: Equator-25°S, 110°W-160°E					
0525 ¹ , 2025 ²	8751.2(A3H) 17272.5(A3H)	S, F			
¹ Broadcast Mon.-Fri., June 15-Oct. 15.					
² Broadcast Sat.-Sun., June 15-Oct. 15.					
2-1530-4AC					
HONOLULU, HAWAII, U.S.A. (NMO)					
<i>Area:</i>					
(a) Coastal waters out 20 Miles from Hawaiian Islands					
(b) Offshore waters within 1000 Miles of Hawaiian Islands					
(c) North Pacific: Equator-50°N, 140°W-160°E					
(d) South Pacific: Equator-25°S, 110°W-160°E					
0000, 0600	2670(A3H)	F ¹			
1200, 1800					
0545, 1745	6521.8(A3J) 8760.8(A3J) 13144(A3J)	² F ³			
0500, 1700	157.1 MHz(F3)	W			
¹ For area a & b.					
² Used at 0545 only.					
³ For areas c & d.					
⁴ Used at 1745 only.					
2-1540-4AC					
HONOLULU, HAWAII, U.S.A. (KBP)					
<i>Area:</i>					
(a) Coastal waters out 20 Miles from Hawaiian Islands					
(b) Offshore waters within 1000 Miles of Hawaiian Islands					
0400, 1000, 1600, 2200	2530(A3)	F			
2-1541					
GUAM, MARIANAS IS. (NRV)					
<i>Area:</i>					
Local Waters					
1005, 2205	2670(A3J)	F			
0730, 2330	157.1MHz(F3)	F			

SOUTH PACIFIC OCEAN

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-1545			0140, 0740, 1940	2207(A3)	LR
KEKAHA, HAWAII (WWVH)			0318, 0918, 1518, 2118	2207(A3)	S, F
See 2-1150.					
2-1547					
HONOLULU, HAWAII (KQM)					
See 2-1520					
2-1550-5B					
MAHINA, TAHITI (MAHINA RADIO)					
<i>Area:</i>			New Zealand coastal waters		
Waters 08°S-28°S, 134°W-155°W			0125, 0725, 1925	2207(A3)	LR
0030, 0230, 1800, 2100	8764(A3J) ²	W ³	0248, 0848, 0940, 1448, 2048, 2140,	2207(A3)	S, F
0533, 1703 ⁴	2620(A3)	W ³			
2100	8764(A3J)	F ³			
2115	8764(A3H)	F ³			
2200	2670(A3)	F ³			
¹ See figure 17.					
² Broadcast on A3J and repeated on A3H at beginning of watch period of "Schooner traffic".					
³ In French					
⁴ At broadcast times of AVURNAV					
2-1560-5B					
SUVA, FIJI ISLANDS (3DP)					
<i>Area:</i>			2-1600-5C		
(a) Equator-25°S, 160°E-140°W			CHATHAM ISLAND, NEW ZEALAND (ZLC)		
0003, 0403, 0803, 2003	4377.4(A3) 8796(A3)	F	<i>Area:</i>		
			Waters in vicinity of Chatham Islands and between Chatham Is. and New Zealand		
			0350, 0950, 2150	2207(A3)	S, F
2-1570-5B					
NOUMEA, NEW CALEDONIA (RADIO NOUMEA)					
<i>Area:</i>			2-1610-5C		
Waters 300 Miles Seaward from New Caledonia and New Hebrides			WELLINGTON, NEW ZEALAND (ZLW)		
0000, 0200, 0900, 1100	670(A3) 3355(A3) 7170(A3) 11825(A3)	S, F ²	<i>Area:</i>		
			New Zealand coastal waters		
			0135, 0735, 1935	2153(A3)	LR
			0303, 0903, 1003, 1503, 2103, 2203	2153(A3)	S, F
¹ See figure 18.					
² In French					
2-1580-5C			2-1620-5B		
AUCKLAND, NEW ZEALAND (ZLD)			ADELAIDE, AUSTRALIA (VIA)		
<i>Area:</i>			<i>Area:</i>		
New Zealand coastal waters			Offshore waters-Adelaide area		
			0848, 2303	4136.3(A3H) 2201(A3A,H,J)	F, LR, SR
			¹ See figure 19a.		
2-1630-5B			2-1630-5B		
MELBOURNE, AUSTRALIA (VIM)			MELBOURNE, AUSTRALIA (VIM)		
<i>Area:</i>			<i>Area:</i>		
			Offshore waters-Melbourne area		
			0303, 0733, 2148, 2333 ²	2201(A3H) 4136.3(A3H)	F, LR, SR

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
1133, 1533, 1933	2201(A3H) 4136.3(A3H)	W	THURSDAY ISLAND, AUSTRALIA (VII)		
¹ See figure 19a			<i>Area:</i> ¹		
² Sunday 0718			Offshore waters-Darwin, Port Moresby, Townsville and Brisbane areas		
2-1640-5B			0648, 2303 2201(A3H)	F	
SYDNEY, AUSTRALIA (VIS)			0248 4136.3		
<i>Area:</i> ¹			¹ See figure 19a		
Offshore waters-Sydney area			2-1680-5B		
0203, 0703, 4136.3(A3H)		F, LR,	DARWIN, AUSTRALIA (VID)		
2203 4136.3(A3H)		SR	<i>Area:</i> ¹		
	2201(A3H)		Offshore waters-Darwin area		
¹ See figure 19a			0733, 2233 2201(A3,A3H)	F, LR,	
2-1650-5B			0348 4136.3(A3,A3H)	SR	
¹ See figure 19a			¹ See figure 19a		
BRISBANE, AUSTRALIA (VIB)			2-1690-5B		
<i>Area:</i> ¹			PORT MORESBY, PAPUA (VIG)		
Offshore waters-Brisbane and Townsville areas			<i>Area:</i> ¹		
0318, 0833, 4136.3(A3H)		F, LR,	Offshore waters-Port Moresby area		
2333 (A3H)		SR	0018, 2203 4407(A3)	F, LR,	
	4136.3			SR	
	4136.3		0603 2201(A3)	F, LR,	
¹ See figure 19a				SR	
2-1660-5B			¹ See figure 19a		
TOWNSVILLE, AUSTRALIA (VIT)			2-1700-5B		
<i>Area:</i> ¹			RABAUL, NEW BRITAIN (VJZ)		
Offshore waters-Townsville area			<i>Area:</i> ¹		
0333, 0748 2201(A3H)		F, LR,	Offshore waters-Rabaul area		
2133 4136.3		SR	0503, 2103 2201(A3)	F, LR,	
¹ See figure 19a				SR	
2-1670-5B			¹ See figure 19a		

INDIAN OCEAN, RED SEA AND PERSIAN GULF

<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>	<i>Radio station, area, and broadcast time</i>	<i>Frequency and mode</i>	<i>Contents</i>
2-1710-6C			2-1760-6C		
CAPE TOWN, SOUTH AFRICA (ZSC30)			JAZIRAT DAS (2AI15)		
<i>Area:</i>			<i>Area:</i>		
Coastal waters, Orange River East London 0948, 1748 1765(A3) F 1333 1765(A3) LR			Local areas around Jazirat Das, Umm Shaif, Rig az Zakum, Hail and Dalmah 0445, 1100 Ch. 18, 20(F3) F		
2-1720-6C			2-1770-6C		
PORT ELIZABETH, SOUTH AFRICA (ZSQ7)			AL KUWAIT(9KK)		
<i>Area:</i>			<i>Area:</i>		
Coastal waters, Agulhas-Lourenco Marques 0933, 1720 1765(A3) F 1340 1765(A3) LR			Vicinity of Al Kuwait 0530, 1730 2200(A3) F		
2-1730-6C			2-1780-6B		
DURBAN, SOUTH AFRICA (ZSD)			BROOME, AUSTRALIA (VIO)		
<i>Area:</i>			<i>Area:</i>		
Coastal waters, Agulhas-Lourenco Marques; Mo. Neptune Channel south of 15°S 0948 1765(A3) F 8744.8(A3H) 1703 1765(A3) F 4377.4(A3) 1303 1765(A3) LR			Offshore waters, Perth, Broome and Darwin Areas 0803, 2333 2201(A3) F, LR, 4136.3(A3H) SR		
2-1740-6B			¹ See figure 19b		
PORT LOUIS HARBOR, MAURITIUS(3BB)			2-1790-6B		
<i>Area:</i>			CARNARVON, AUSTRALIA (VIC)		
Southwest Indian Ocean, 10°S-30°S, 50°E-85°E 0435, 1635 4403(A3) S, F ¹ See figure 20			<i>Area:</i>		
2-1750-6B			Offshore waters, Perth and Broome areas 0418, 0818, 2201(A3,A,H,J) F 2318 4136.3(A3A,H,J)		
NAIROBI, KENYA(5YE)			¹ See figure 19b		
<i>Area:</i>			2-1800-6B		
Indian Ocean 12°N-11°S, from Coast to 60°E 1240 9086(A3J) S, F ¹ See figure 20			ESPERANCE, AUSTRALIA (VIE)		
			<i>Area:</i>		
			Offshore waters, 30°S-45°S, 100°E-129°E 0103 2201(A3) W 4136.3(A3) 0833 do. F		
			¹ See figure 19b		

Section 3-Radiofacsimile

Serial No	Station and abbreviation	Serial No	Station and abbreviation
NORTH ATLANTIC OCEAN			
0010.... Frobisher, N.W.T., Canada			
0020.... Halifax, N.S., Canada		0290.... Buenos Aires, Argentina	
0030.... Boston, Mass.		0300.... Pretoria, South Africa	
0040.... Brentwood, N.Y.		NORTH PACIFIC OCEAN	
0050.... Norfolk, Va.		0310.... Edmonton, Alberta, Canada	
0060.... Washington, D.C.		0320.... San Francisco, Calif.	
0070.... Bracknell, U.K.		0330.... LaJolla, Calif.	
0080.... Bracknell, U.K.		0340.... Honolulu, Hawaii	
0090.... Northwood, U.K.		0350.... Honolulu, Hawaii	
0110.... Stockholm, Sweden		0360.... Guam, Mariana Is.	
0120.... Helsinki, Finland		0370.... Khabarovsk, U.S.S.R.	
0130.... Moscow, U.S.S.R.		0380.... Tokyo, Japan	
0135.... Offenbach FRG		0390.... Bangkok, Thailand	
0140.... Hamburg, Fed. Republic of Germany		0400.... Canberra, Australia	
0150.... Paris, France		SOUTH PACIFIC OCEAN	
0160.... Rota, Spain		0410.... Darwin, Australia	
0170.... Madrid, Spain		0420.... Honolulu, Hawaii	
0180.... Dakar, Senegal		0430.... Guam, Mariana Is.	
MEDITERRANEAN SEA			
0190.... Rota, Spain		0440.... Canberra, Australia	
0200.... Madrid, Spain		INDIAN OCEAN, RED SEA AND PERSIAN GULF	
0210.... Paris, France		0450.... Pretoria, South Africa	
0220.... Rome, Italy		0460.... Nairobi, Kenya	
0230.... Belgrade, Yugoslavia		0470.... Rota, Spain	
0250.... Sofia, Bulgaria		0480.... Cairo, Egypt	
0260.... Ankara, Turkey		0490.... Tehran, Iran	
0270.... Cairo, Egypt		0500.... New Delhi, India	
SOUTH ATLANTIC			
0280.... Rio de Janeiro, Brazil		ANTARCTIC WATERS	
		0510.... Oreadas, Orkney Is.	

SECTION 3

RADIOFACSIMILE BROADCASTS

Explanatory Notes:

1. Facsimile Transmission (F4 emission) frequencies listed are carrier frequencies.
2. Transmission speed is 120 scans/minute unless otherwise noted.
3. Hours that a frequency is in use are shown inside parentheses immediately following the frequency. (No indication of time if operation is 24 hours/day.)
4. A general description of the areal coverage is given for each broadcast.
5. Detailed schedules of transmission of products on U.S. Navy radio stations are subject to change and are not included. However, the current schedule is broadcast at a fixed time each day and this time is listed.
6. Only radiofacsimile charts of interest to most mariners are listed in this section. Following are definitions of the terms used to describe these charts:

Analysis—A chart that shows existing sea-level pressure patterns, including centers of high and low pressure, and frontal systems. Plotted observational data may be included.

Prognosis—A chart showing forecast conditions at a specified future time.

Nephanalysis—Analysis of satellite photographs in terms of type and amount of clouds.

Significant Weather Depiction Chart—A chart that shows frontal systems with associated cloud pattern and precipitation or fog areas. These charts may show either recent conditions or forecast conditions.

Wave/Swell/Sea Condition Charts—These charts vary in content. In general, they show sea and/or swell heights, direction from which the sea and swell are moving, and/or periods. The charts may be either analyses or prognoses.

Sea-Surface Temperature Chart—An analysis of the temperature of the sea, for a given ocean area.

7. The Appendix contains information to aid in the interpretation of radiofacsimile weather charts.

NORTH ATLANTIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
3-0010-1		3-0040-1	
FROBISHER N.W.T., CANADA (VRC 3)¹		BRENTWOOD, N.Y., U.S.A. (WFH/WFK)	
<i>Area:</i>		<i>Area:</i>	
Hudson Strait, Hudson Bay, East Coast Baffin Island, Foxe Basin, Lancaster Sound, Queen Elizabeth Islands		Western North Atlantic ¹	
Frequency (kHz):		Frequency (kHz):	
3253, 7710		9290(0712-1212)	
1815 Ice information		9389.5(0712-1212)	
0815 Ice information (repeat)		11035(0712-1212)	
¹ Broadcast July 1 Oct 15		17436.5(1950-2350)	
3-0020-1		0750, 1950 Surface analysis	
HALIFAX, N.S., CANADA (CFH)		1046, 2307 24-hr surface/sea and wind	
<i>Area:</i>		prognoses ²	
Western North Atlantic		1150 36-hr wind wave/swell	
Frequency (kHz):		prognosis;	
4271, 9890, 13510,		24-hr/36-hr combined sea	
133.15 ¹		height prognoses ²	
0316, 0916, Early surface analysis		¹ Transmissions beamed towards Caribbean, Central and South America on a mean bearing of 165°	
1516, 2116		² Sea height in meters	
0500, 1100, Final surface analysis			
1700, 2300			
0000, 1200 Ice information		3-0050-1	
0416, 1616 Wave analysis/12-hr prognosis		NORFOLK, VA., U.S.A. (NAM)¹	
0616, 1816 24/36-hr wave prognoses		<i>Area:</i>	
0520, 1720 36-hr surface/500 mb		North Atlantic Ocean	
prognoses		Frequency (kHz):	
1120, 2320 42/48-hr surface/500 mb		3357, 4975, 8080	
prognoses		10865, 16410, 20015	
1020 Surface extended prognosis ²		0000 Schedule	
0800, 2000 Sea surface temperature		1200 Test chart	
analysis		¹ U.S. Navy Fleet Broadcast (NFAX)	
2220 Test chart		3-0060-1	
¹ 133.15 kHz not used 1200-1600 on Wednesday		WASHINGTON, D.C. U.S.A. (KWAF)¹	
² For 3rd, 4th and 5th days		<i>Area:</i>	
3-0030-1		North Atlantic Ocean	
BOSTON, MASS., U.S.A. (NIK)		Frequency (kHz): ²	
<i>Area:</i>		4793.5, 6912.5, 10185,	
Western North Atlantic		12201, 13472.5, 14671.5,	
Frequency (kHz):		15620.5, 17670.5, 19955,	
8502, 12750		23068.5	
1600 Ice information ¹		0636, 1836 Surface analysis	
¹ Limit of all known ice, limit of sea ice and iceberg locations, March-July approximately		0700, 1900 12/24-hr surface and significant	
		weather prognosis	
		1200 ² 1 hr surface prognosis	
		0335, 0900 weather advisory	
		1545, 2000	

<i>Radio Station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
0530	Exter led forecast (Mon., Wed., Fri.)	1440	48/72-hr surface prognoses
0500, 0515, 1708, 1730	Test chart	0900, 2037	Wave analysis
	¹ U.S. Air Force broadcast beamed simultaneously to Panama Canal Zone on separate sets of frequencies	1315, 2359	24-hr wave prognosis
	² For each broadcast two frequencies are chosen each day, depending on radio propagation conditions	0110, 1326	48-hr wave prognosis
		1159, 1759	Nephanalysis
		1500	Extended inference (72-hr)
		1400	Sea ice observations
		1420	Sea surface temperature, British Isles coastal waters
3-0070-1		0100, 1300	Radio frequency check
BRACKNELL, UNITED KINGDOM (GFA)			
<i>Area:</i>		Note: A schedule is transmitted each Thursday at 0837 GMT	
Eastern North Atlantic			
<i>Frequency (kHz):</i>			
3289.5(0000-2400)			
4610(1800-2400)			
8040(0000-2400)			
11086.5(0000-2400)			
14582.5(0600-1800)			
0333, 0826, 0933, 1533, 2133	Surface analysis	0700, 1100, 1950, 2110	Surface analysis
0433, 1033, 1633, 2233	24-hr surface prognosis	0720, 1120	Significant weather prognosis
0112, 1147	30-hr surface prognosis	1410	Sea surface temperature and ice analysis
1440	48/72-hr surface prognoses	1950	Oceanographic forecast
0945, 2037	Wave analysis	2010	Sea and swell forecast
1250, 2350	24-hr wave prognosis	2050	24/48-hr surface prognoses
0001, 1301	48-hr wave prognosis	Note: Schedule subject to change without notice	
1119, 1320	Nephanalysis		
Note: A schedule is transmitted each Thursday at 0922 GMT			
3-0080-1			
BRACKNELL, UNITED KINGDOM (GFE)			
<i>Area:</i>			
Eastern North Atlantic			
<i>Frequency (kHz):</i>			
4782(0000-2400)			
9203(0000-2400)			
14436(0000-2400)			
2618.5(1800-0600, Oct 1-Mar. 31; 1900-0500 Apr. 1-Sept. 30)			
18261(0600-1800 Oct 1-Mar. 31; 0500-1900 Apr. 1-Sept. 30)			
0333, 0826, 0933, 1533, 2133	Surface analysis	0355, 1013, 1555, 2205	Surface analysis
0433, 1033, 1633, 2233	24-hr surface prognosis	0735, 1845	18/30-hr surface prognoses
		0915	30-hr surface prognosis
		1100	48-hr surface prognosis
		1130, 1920	Ice Chart (Baltic Sea)
		190 scans/minute	
3-0110-1			
NORTHWOOD, UNITED KINGDOM (MHU)			
<i>Area:</i>			
Northeast Atlantic			
<i>Frequency (kHz):</i>			
4280, 6435.55, 8502, 12844.5, 16938, 22384			
0700, 1100, 1950, 2110			
0720, 1120			
1410			
1950			
2010			
2050			
Note: Schedule subject to change without notice			
3-0110-1			
STOCKHOLM, SWEDEN (SAY, SMA)			
<i>Area:</i>			
Northeast Atlantic and Baltic Sea			
<i>Frequency (kHz):</i>			
119.85(0300-1700)			
4037.5(0300-2400)			
0901(0600-2400)			
8077.5(0000-2400)			
0355, 1013, 1555, 2205			
0735, 1845		18/30-hr surface prognoses	
0915		30-hr surface prognosis	
1100		48-hr surface prognosis	
1130, 1920		Ice Chart (Baltic Sea)	
190 scans/minute			
3-0120-1			
HELSINKI, FINLAND (OFA 83)			
<i>Area:</i>			
Baltic Sea			
<i>Frequency (kHz):</i>			
83.1, 8018 ¹			

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
0040	12/18/24/30-hr surface prognoses	3-0140-1	
0930	24/36-hr surface prognoses	HAMBURG-QUICKBORN/PINNEBERG, FED. REPUBLIC OF GERMANY	
0740	Ice information/surface water temperature	<i>Area:</i>	Northeastern North Atlantic
1 Used for 0740 transmission only		<i>Frequency (kHz):</i>	3695.8(0905-1014), 13627.1(2108-2157)
3-0130-1		0918 ¹ , 2120	Surface analysis
MOSCOW, U.S.S.R.		0948	Surface analysis, North Sea
<i>Area:</i>		0931, 2133	24-hr surface prognosis
Eastern North Atlantic ¹		2108	Sea conditions analysis
<i>Frequency (kHz):</i>		0905 ² , 2145 ²	Ice information, western No. Atlantic
5355(0000-2400)		1002	Sea surface temperature, North Sea
7750(0000-2400)		¹ Not transmitted on Sunday or holidays	
10980(0000-2400)		² Irregularly, in spring and early summer	
15950(0220-1745)		3-0150-1	
2815(1800-0055)		PARIS (STE, ASSISE), FRANCE	
0220, 0820,		<i>Area:</i>	
1420, 2020		North Atlantic Ocean and Mediterranean Sea	
0255, 0855,		<i>Frequency (kHz):</i>	
1455, 2055		4035(0200-0630, 1900-2200)	
0755, 1955		8085(0200-2200)	
1340, 2155		12260(0700-1050, 1135-1830)	
0730		136.5(0000-2400)	
0742		0934, 0945,	
0955		Surface analysis ¹	
1145		1537, 2145	
0510, 1110,		0801, 1110 ² ,	
1710, 2235		Surface analysis ³	
045		2100	
230		0542, 0958,	
250, 2340		24-hr surface prognosis	
315		1655	
210		1220	
Sea surface temp forecast ⁵		72-hr surface prognosis	
¹ Except for tropical charts transmitted at 1340 and 2155		0230	
² Transmission speed 60 scans/minute		12-hr sea surface temperature/ wave height prognosis	
³ Transmission speed 90 scans/minute		0240	
⁴ For Northern Hemisphere and Southern Hemisphere		36/48-hr wave height forecast	
⁵ 10-day forecast transmitted on 3rd, 13th and 23rd of each month.		0845, 1401 ² ,	
—0135-1		Test chart	
OFFENBACH/MAIN MAINFLINGEN, FEDERAL REPUBLIC OF GERMANY		¹ For area enclosed by 46°N, 72°W, 53°N, 69°E; 18°N, 31°W; 20°N, 27°E	
<i>Area:</i>		² Transmission speed 60 scans/minute	
Northeastern North Atlantic; Mediterranean Sea		³ For area enclosed by 35°N, 125°W, 34°N, 155°E, 10°N, 73°W, 09°N, 04°E	
<i>Frequency (kHz):</i>		3-0160-1	
34.2		ROTA, SPAIN (AOK)¹	
355, 0559		<i>Area:</i>	
946, 1145		Eastern North Atlantic and Mediterranean Sea	
555, 1759		<i>Frequency (kHz):</i>	
200		7626(0000-2400)	
528, 1049		8100(0000-2400)	
728, 2250			
100			
48-hr surface prognosis			

<i>Radio Station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
12184(0000-2400)		0705, 1645	24-hr surface prognosis/200 mb prognosis
3713(2100-0700)		1125	48-hr surface prognosis
5206(2000-0800)		1030, 1715	Wave height analysis
12903 0800-2000)		1050	30-hr wave height prognosis
15941.5(0700-2100)		1230	Nephanalysis
0000, 1200 Schedule		1700	Sea surface temperature
' U.S. Navy KFAX Broadcast			
3-0170-1			
MADRID, SPAIN			
<i>Area:</i>			
Eastern North Atlantic and Mediterranean Sea			
<i>Frequency (kHz):</i>			
3650, 6918.5, 10250			
0410	Surface analysis/300 mb analysis		
1555	Surface analysis/500 mb analysis		

3-0180-1**DAKAR, SENEGAL (6VU/6VY)***Area:*

Eastern Atlantic-Equator to 35°N, 35°W to 22.5°E

Frequency (kHz):

13667.5(0000-2400)

19750(0830-2000)

7587.5(2000-0830)

0950, 2150 Surface analysis

MEDITERRANEAN SEA

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
3-0190-2		3-0250-2	
ROTA, SPAIN (AOK)		SOFIA, BULGARIA (LZA8)	
Note: Transmitted only on request by U.S. Navy ships. Frequency list supplied by station when answering requests.		<i>Area:</i> 30°N, 20°W; 28°N, 34°E; 64°N, 45°W; 60°N, 63°E <i>Frequency(kHz):</i> 4813 6430, 1110 Surface analysis ¹	
3-0200-2		¹ Transmission speed 90 scans/minute	
MADRID, SPAIN		3-0260-2	
See 3-0170-1		ANKARA, TURKEY (YMA)	
3-0210-2		<i>Area:</i> Mediterranean Sea <i>Frequency(kHz):</i> 777(1600-0030) 2560(0500-1400) 6790(0500-1400)	
PARIS (STF ASSISE), FRANCE		0520, 1015, Surface analysis 1620, 2210 1200, 2307 24-hr surface prognosis 1225, 2335 36-hr surface prognosis 0620, 1330, Significant weather prognosis 2007 0645 ¹ Daily weather bulletin 1040, 1830 Nephanalysis 0509, 0725, Test chart 1600	
See 3-0150-1		¹ Not on Sunday Note: All transmissions are 90 scans/minute	
3-0220-2		3-0270-2	
ROME, ITALY (IMB)		CAIRO, EGYPT (SUU)	
<i>Area:</i> North Atlantic east of 15°W; Mediterranean, Black, and Caspian Seas		<i>Area:</i> Mediterranean Sea, Red Sea and waters around Africa, north of 10°S	
<i>Frequency (kHz):</i> 4777.5(0000-2400) 8146.6(0000-2400) 13600(0600-2030)		<i>Frequency(kHz):</i> 9043(0000-2400) 17365(0645-1845) 5127(1845-0645)	
0450, 1650 Preliminary surface analysis 0625, 1050, Surface analysis 1825, 2250 1020 36-hr surface prognosis 0350, 1225, Nephanalysis 1550, 2230 0410, 1610 Test chart		0530, 1130, Surface analysis 1730, 2330 0410, 1010, 18-hr surface prognosis 2210 1140, 1610, 24-hr surface prognosis 2340 0030, 0500, Significant weather prognosis 1100, 1700	
3-0230-2			
BEOGRAD, YUGOSLAVIA (YZZ)			
<i>Area:</i> Mediterranean Sea			
<i>Frequency (kHz):</i> 5800(0700-1700) 3520(1700-0700)			
0445, 0730, Surface analysis 1030, 1330, 1630, 1930, 2230 0705 24-hr surface prognosis			
Notes: 1. All transmissions 90 scans/minute 2. Transmissions are 1900 c/s above registered frequencies			

<i>Radio Station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
1340	Nephanalysis		

SOUTH ATLANTIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
3-0280-3			
RIO DE JANEIRO, BRAZIL (PWZ)			
<i>Area:</i>			
South Atlantic - 10°N to 35°S, 10°W to South American Coast			
Frequency(kHz): 12025			
0430, 1700	Surface analysis, Sea surface temperature		
3-0290-3			
BUENOS AIRES, ARGENTINA (LRO/LRB)			
<i>Area:</i>			
Area outlined by 48°S, 12°E; 48°S, 132°W; 04°N, 30°W; 04°N, 90°W			
Frequency(kHz):			
5185, 10720, 18093			
3-0300-3			
PRETORIA, SOUTH AFRICA (ZRO)			
<i>Area:</i>			
South Atlantic east of 40°W, Indian Ocean west of 80°E			
Frequency(kHz):			
4014(1800-0430)			
7508(0000-2400)			
13773(0000-2400)			
18238(0300-1730)			
0515, 1000,	Surface analysis		
1545, 1930			

NORTH PACIFIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
3-0310-4			
EDMONTON, ALTA., CANADA (VFE)			
<i>Area:</i>			
Eastern North Pacific			
<i>Frequency(kHz):</i>			
8160, 11615.5, 15770.5			
0144, 0800, 1344, 2010	Surface analysis ¹	2000	Surface analysis ^{3 4} Significant weather/sea state analysis ^{3 4}
0351, 0953, 1550, 2144	Surface analysis ²	2300	Wind and weather analysis ^{4 5} 36-hr surface prognosis ³ 36-hr sea/swell prognosis ³
0442, 1640,	36-hr Surface and 500 mb prognoses ¹		36-hr surface prognosis ^{3 4} 36-hr sea/swell prognosis ^{3 4}
0257, 1457	24 and 36-hr surface prognosis		Surface analysis ³
1016, 2216	48-hr surface prognosis		Mean wind and weather prognosis ⁵
¹ North America, Atlantic, Arctic, & eastern North Pacific Oceans			Mean sea/swell prognosis ⁵
² Northern Hemisphere			
3-0320-4			
SAN FRANCISCO, CALIF., U.S.A. (NMC)			
<i>Area:</i>			
Eastern North Pacific; South Pacific, Equator-20°S and east of 160°W			
<i>Frequency(kHz):</i>			
4344.1, 8680.1, 12728.1, 17149.3 ²			
0000	Schedule (Monday only)	8644.1	
0100	36-hr surface prognosis ^{3 4} 36-hr sea/swell prognosis ^{3 4}	17408.6	(Not used at 1700 GMT)
	Surface analysis ⁴	1500 ²	Wind and weather analysis and forecast ³
	Mean wind and weather prognosis ^{4 5}	1700 ⁴	Weekly mean sea surface Temperature analysis
	Mean sea and swell prognosis ^{4 5}	2300	Wind and weather analysis and forecast ⁵
0520	72/96-hr extended outlook ⁶ Surface analysis ³	2310 ⁷	Sea and swell analysis ⁶
	Significant weather/sea state prognosis ³	2320 ⁷	Sea surface temperature analysis ⁸
0700	72/96-hr extended outlook ⁶ Surface analysis ^{3 4}	2320 ⁹	Weekly mean mixed layer depth analysis ¹⁰
	Significant weather/sea state prognosis ^{3 4}		
1500	Mean wind and weather prognosis ⁵		
1820	Surface analysis ³ Significant weather/sea state prognosis ³		
	Wind and weather analysis ⁵		

¹Carrier frequencies, broadcast made on upper sideband

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
² Mon.-Fri. incl.		3980	
³ For area a, chart depicts wind direction & speed, position of intertropical convergence zone, cloud cover, areas of severe weather, initial and forecast positions of tropical disturbances		4516.7	
⁴ On Friday, July-October		6870	
⁵ For area b, Temperate waters		7457	
⁶ For area a		9230	
⁷ Thur. only		14737, 22425	
⁸ For area c, tropical waters		0245, 0430,	Surface analysis ¹
⁹ On Fri. throughout year,		0845, 1030,	
¹⁰ For area d		1445, 1630,	
		2050, 2225	
		0055	24-hr surface prognosis ²
			¹ Transmission speed 60 scans/minute
			² Transmission speed 120 scans/minute
3-0340-4		3-0380-4	
HONOLULU, HAWAII, U.S.A. (NPM)		TOKYO, JAPAN, (JMH)	
<i>Area:</i>		<i>Area:</i>	
North Pacific Ocean		Western North Pacific	
<i>Frequency(kHz):</i>		<i>Frequency (kHz):</i>	
2122(0000-2400)		3622.5, 7305, 9970,	
9440(0000-2400)		13597, 18220, 22770	
13862.5(0000-2400)		0400, 1000, Surface analysis ^{1,2}	
4802.5(0600-1800)		1600, 1725,	
16400(1800-0600)		2000	
21785(1800-0600)		1100 No. Hemisphere surface analysis ²	
0000 Schedule		0644 24-hr surface prognosis ¹	
¹ U.S. Navy Fleet Broadcast (HFAX)		0716, 1853 24-hr surface prognosis ³	
3-0350-4		0810 Wave analysis ¹	
HONOLULU, HAWAII, U.S.A. (KVM 70) ¹		1020 10-day mean sea surface temperature ^{4,5}	
<i>Area:</i>		1020 Surface ocean current ^{6,7}	
25°S-40°N, 160°E-110°W		1020 Ice condition chart ⁸	
<i>Frequency(kHz):</i>		0054 Radio prediction ⁹	
5037.5, 7770, 9982.5,		0521, 1320 ¹⁰ Test chart ²	
11090, 13627.5, 16135,			¹ For area: 38.5°N, 63.5°E; 38.5°N, 145.5°W; 01°S, 112.5°E; 01°S, 167°E
23331.5 ²			² Prior to chart transmission a 60-second transmission of alternating black and white signals at 300 Hz and a 60-second transmission of phasing signal are transmitted
0037, 0716, Surface analysis			³ For area: 44°N, 94°E, 53°N, 167.5°E; 17.5°N, 115.5°E; 21°N, 153°E
1130, 1913			⁴ For area: 50°N, 115°E, 50°N, 180°; 16°N, 115°E, 16°N, 180°
0052, 1315 24-hr surface prognosis			⁵ On 4th, 14th, and 24th of month
0655, 1130, Test chart			⁶ Several local charts
1905, 2310			⁷ On 19th of month only
¹ Broadcast is broadly beamed to the west			⁸ In season, on 2nd, 7th, 12th, 17th, 22nd, and 27th of month
² Transmissions are on two frequencies only, on basis of two best suited for propagation to the Marshall Islands (2000 nautical miles)			⁹ On 21st and 22nd of month
3-0360-4			¹⁰ 60 scans/minute
GUAM, MARIANAS IS. (NPN) ¹		3-0390-4	
<i>Area:</i>		BANGKOK, THAILAND (HSW)	
Western North Pacific and eastern Indian Ocean		<i>Area:</i>	
<i>Frequency (kHz):</i>		30°S-50°N, 45°E-160°E	
4975, 7645, 10255,		<i>Frequency (kHz):</i>	
13807.5, 18620, 23880		7863, 8070, 17520	
0000 Schedule			
¹ U.S. Navy Fleet Broadcast(GFAX)			
3-0370-4			
KHABAROVSK, U.S.S.R. (RHB/RHO)			
<i>Area:</i>			
U.S.S.R. Territory and neighboring Pacific waters			
<i>Frequency (kHz):</i>			

<i>Radio Station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
0500, 1700 3-0400-4 CANBERRA, AUSTRALIA (AXM) <i>Area:</i> Waters south of 10° S, 70°E-150°W. See 3-0440-5	Surface analysis		

SOUTH PACIFIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
3-0410-5		3-0430-5	
DARWIN, AUSTRALIA (AXI)		GUAM, MARIANA IS. (NPN)	
<i>Area:</i> 25°N-25°S, 75°E-180°		<i>See</i> 3-0360-4	
<i>Frequency(kHz):</i>		3-0440-5	
5755(0800-2100)		CANBERRA, AUSTRALIA (AXM)	
7535(0800-2100)		<i>Area:</i>	
10555(0000-2400)		South of 10°N, 70°E-150°W	
15615(2100-0800)		<i>Frequency (kHz):</i>	
18060(2100-0800)		5100, 11030, 13920, 19690	
0618, 1135, Surface analysis ¹	1735, 2335	1025, 1818 Surface analysis ¹	
0735, 1325, 24-hr significant	2018, weather prognosis ³	0138, 0835, Surface analysis ²	
		1345, 2025	
¹ For area: 23°N-23°S, 100°E-180°		1118, 1438, Surface analysis, 2118 So. Hemisphere	
² For area: 43°S, 110°E, 36°S, 157°E, 36°N, 142°E, 29°N, 96°E		0635, 0938, 24-hr surface prognosis 1538	
3-0420-5		2218 Significant weather prognosis	
HONOLULU, HAWAII, U.S.A. (KVM 70)	<i>See</i> 3-350-4	¹ For area: 25°N, 100°E, 10°N, 170°W, 40°S, 180°, 25°S, 90°E, 25°N, 100°E	
		² For area 05°S-50°S, 100°E-175°E	

INDIAN OCEAN RED SEA AND PERSIAN GULF

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
3-0450-6		3-0480-6	
PRETORIA, SOUTH AFRICA (ZRO)		CAIRO, EGYPT (5YE)	
See 3-0300-3		See 3-270-2	
3-460-6		3-0490-6	
NAIROBI, KENYA (5YE)		TEHRAN, IRAN (EPD)	
<i>Area:</i>		<i>Area:</i>	
Indian Ocean		58°N, 20°E; 28°N, 85°E; 23°N, 20°E; 08°N, 65°E	
<i>Frequency (kHz):</i>		<i>Frequency (kHz):</i>	
5127(1845-0645)		8715	
9043		0700 Surface analysis	
17365(0645-1845)	Surface analysis	0730 24-hr surface prognosis	
0830, 1645	24-hr Surface prognosis	Note: Transmission speed 90 sec/minute	
1045, 1730	24-hr pressure change analysis		
1030, 1455	Sea, state, surface wind,		
1710	Significant weather analysis		
3-0470-6		3-0500-6	
ROTA, SPAIN (AOK)		NEW DELHI, INDIA (ATS/ATP)	
Note: Transmitted only on request by U.S. Navy ships		<i>Area:</i>	
Frequency list supplied by station when answering request		45°N-25°S, 30°E-125°E	
See 3-010-3 2		<i>Frequency (kHz):</i>	
		7405(1430-0200)	
		14842(0230-1400)	
		18227(0230-1400)	
		0011, 0620, Surface analysis	
		1211, 1820	
		0822, 2022 24-hr surface prognosis	

ANTARCTIC

<i>Radio station, area, freq., m.y., and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
3-0510-7 ORCADAS (LOK) <i>Area:</i> 50°S-Pole, 20°W-90°W <i>Frequency (kHz):</i> Summer		2422.5, 8818(0300, 1700, 1915); 8195, 11147(0315, 1715, 1930) Winter 2422.5, 4250(0300, 1700, 1915); 2422.5, 6454, 9983(0315, 1715, 1930) 0300, 0315 Surface analysis 1700, 1715	

Section 4-Radioteleprinter

Serial No	Station and abbreviation	Serial No	Station and abbreviation
NORTH ATLANTIC			
0020.... New York, N.Y. (KJFK)		0030 Miami, Fla. (WBR)	
0030.... Miami, Fla. (WBR)		0110.... Tokyo, Japan (JMG)	
0040.... Mobile, Ala. (WLO)		0120.... Saigon, Viet Nam (XVS)	
0050.... Stockholm, Sweden (SMA)		SOUTH PACIFIC	
0060.... Kano, Nigeria		0130.... Jakarta, Indonesia (8BB)	
0070.... Dakar Senegal (6VY,6VU)		0140.... Wellington, New Zealand (ZLZ,ZLX)	
SOUTH ATLANTIC		0150.... Canberra, Australia (AXM)	
0080.... Pretoria, South Africa (ZRO)		0160.... Darwin, Australia (AXI)	
0090.... Buenos Aires, Argentina (LRB, LRO)		INDIAN OCEAN	
0100.... Brasilia, Brazil (PPN9)		0080.... Pretoria, South Africa (ZRO)	
NORTH PACIFIC		00150.... Canberra, Australia (AXM)	
0020.... New York, N.Y. (WSY70)		0170.... Tananarive, Madagascar (5ST)	
		0181.... Bigara, Mauritius (3BM)	
		0190.... Saint Denis, Reunion Is. (FZR, FZS)	
		0200.... New Delhi, India (VVD)	

SECTION 4**RADIOTELEPRINTER BROADCASTS***Explanatory Notes:*

1. Most radioteleprinter weather transmissions are encoded meteorological data beamed point-to-point for support to national meteorological services. Only transmission schedules of forecasts, warnings, or analyses are listed in this publication.
2. Speed of transmissions: 66 words per minute, except the New York, N.Y. (WSY) broadcasts are 60 words per minute.

NORTH ATLANTIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
		¹ Code FM 45 D	
4-0040-1		MOBILE, ALABAMA, U.S.A. (WLO)	
<i>Area:</i>		<i>Southwest North Atlantic, Caribbean Sea, and Gulf of Mexico</i>	
<i>Frequency (kHz):</i>		<i>8714.5</i>	
0020, 1120,		0020, 1120, Forecasts and warnings	
1720		1720	
		¹ See figure 3	
4-0050-1		STOCKHOLM, SWEDEN (OMA)	
<i>Area:</i>		<i>Northern Europe</i>	
<i>Frequency (kHz):</i>		<i>5172.5, 10998</i>	
0840, 1140		0840, 1140, Storm/gale warnings; 2040 forecasts; ice reports	
		¹ Baltic ice code.	
4-0060-1		KANO, NIGERIA	
<i>Area:</i>		<i>25°N-5°S, 3°W-20°E</i>	
<i>Frequency (kHz):</i>		<i>12190</i>	
		<i>5155 (1800-0600)</i>	
		<i>17535 (0600-1800)</i>	
1130		1130, Surface analysis	
4-0070-1		DAKAR, SENEGAL (6VY, 6VU)	
<i>Area:</i>		<i>Equator-35°N, 22.5°E-35°W</i>	
<i>Frequency (kHz):</i>		¹ 4784, 10380, 13667.5,	
		19750 (0000-2400);	
		7616 (1800-0830)	
0930-1030		0930-1030, Surface analysis	²
1230-1330		1230-1330, 24-hour forecast	
1530-1630		1530-1630, Surface analysis	²
2130-2230		2130-2230, Surface analysis	²
			24-hour forecast
		¹ Transmissions are centered 2.55 Hz below listed frequencies	
		² Code FM 45 D	

[†] Transmissions are centered 2.55 Hz below listed frequencies

Code FM 45.D

SOUTH ATLANTIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
4-0080-3			
PRETORIA, SOUTH AFRICA (ZRO)			
<i>Area:</i>		<i>Area:</i>	
South of equator between 20°W and 20°E; south of 10°S between 20°E and 80°E.		Broadcast beamed to Central America and South Africa	
<i>Frequencies (kHz):</i> ¹		<i>Frequency (kHz):</i>	
4016 (0200-0430, 1730-2030)		5185, 10720, 18093	
7410 (0200-0800, 1430-2030)		0345-0620	Surface analysis
13775 (0200-2030)		1545-1630	Surface prognosis
18240 (0200-2030)		1820-2100	Surface analysis
0840-0900	Surface analysis		Surface prognosis
1440	Surface analysis forecast		
¹ Transmissions are centered 1900 Hz above listed frequencies			
4-0090-3		4-0100-3	
BUENOS AIRES, ARGENTINA (LRB, LRO)		BRASILIA, BRAZIL (PPN 9)	
<i>Area:</i>		<i>Area:</i>	
South Atlantic		South Atlantic	
<i>Frequency (kHz):</i>		<i>Frequency (kHz):</i>	
		10225, 18080	
		0430, 1800	Surface prognosis
		1630, 1930	Surface analysis

NORTH PACIFIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
4-0110-4		1600-1700	Surface analysis ¹
TOKYO, JAPAN (J) (G)		2100-2200	Warnings and synopsis
<i>Area:</i>		2200-2300	Surface analysis ¹
Equator - 60°N, 95°E-175°W		¹ Code FM 45 D	
<i>Frequency (kHz):</i>			
3670, 5102.5,			
7402.5, 14880, 19529, 22728			
0300-0400	Warnings and Synopsis	4-0130-4	
0400-0500	Surface analysis ¹	JAKARTA, INDONESIA (8BB)	
0900-1000	Warnings and synopsis	<i>Area:</i>	
1000-1100	Surface analysis ¹	10°S-10°N, 90°E-145°E	
1500-1600	Warning and synopsis	<i>Frequency (kHz):</i>	
		11500, 16200	
		0645, 1245.	Warnings

SOUTH PACIFIC OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
4-0140-5		Frequency (kHz):	
WELLINGTON, NEW ZEALAND (ZLZ, ZLX)		5100, 11030, 13920 (0000-2400);	
<i>Area:</i>		19690, 27750 (2200-1000)	
5°N-55°S, 140°E-140°W		0400-0430 Surface analysis ¹	
Frequency (kHz):		1500-1530 do,	
5915 (0400-2000, ¹ 0800, 2000 ²)		2100-2115 do,	
7600		¹ Code FM 45.D.	
11130		4-0160-5	
14850		DARWIN, AUSTRALIA (AXI)	
19488 (2000-0400, ¹ 2000- 0800 ²)		<i>Area:</i>	
0540, 1730 Surface analysis		8°S-25°S, 75°E-180°	
¹ March-November		Frequency (kHz):	
² December-February		5755 (0800-2100)	
4-0150-5		7535 (0800-2100)	
CANBERRA, AUSTRALIA (AXM)		10555 (0000-2400)	
<i>Area:</i>		15615 (2100-0800)	
Equator southward, 90°E-170°W		18060 (2100-0800)	
		0100, 0700 Warnings	

INDIAN OCEAN

<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>	<i>Radio station, area, frequency, and broadcast time</i>	<i>Contents</i>
4-0170-6		SAINT DENIS, REUNION IS. (FZR, HXP, FZS)	
TANANARIVE, MADAGASCAR (5ST)		<i>Area:</i> 05°S-55°S, 40°E-100°E	
<i>Area:</i> Equator-40°S, 20°E-80°E		<i>Frequency (kHz):</i> 4440, 8176, 16335	
<i>Frequency (kHz):</i> 4525 (0000-2400) 7552 (0000-2400) 17400(0000-2400) 2614 (2100-0200)		0900-1200 Surface analysis ¹	
0935 Surface analysis		¹ Code FM 46.D	
4-0181		4-0200-6	
BIGARA, MAURITIUS (3BM)		NEW DELHI, INDIA (VVD)	
<i>Area:</i> Reunion and all countries of Southwest Indian Ocean including Seychells.		<i>Area:</i> Equator-40°N, 45°E-100°E	
0930 12988.5		<i>Frequency (kHz):</i> 7580, 12075 (0000-2400)	
16978.4		3192.5 (1430-0040)	
		19400 (0040-1400)	
4-0190-6		0605 Surface analysis ¹	
		0445, 0755, Warnings	
		¹ Code FM 46.D	

SECTION 5

WEATHER BROADCASTS FOR GREAT LAKES

NOAA WEATHER RADIO (VHF-FM)

CONTINUOUS WEATHER BROADCASTS

CONTINUOUS VHF-FM WEATHER BROADCASTS

NOAA WEATHER RADIO

The National Weather Service provides continuous weather broadcasts to mariners within listening range of its VHF-FM radio stations in many coastal locations. These line-of-sight transmissions can be received up to 40 miles from the antenna site depending on terrain and type of receiver. Where antennas are on hills or mountains the range may extend 100 miles or more. These voice broadcasts are taped, and they repeat every 4 to 6 minutes. The tapes are up-dated periodically, usually every 2 to 3 hours, and amended as required to include the latest information.

Broadcasts include local and area warnings and forecasts, radar summaries, observations, sea conditions, and harbor water levels where available. When severe weather warnings are issued, routine transmissions are interrupted and the broadcast given over to emergency warning operations.

Following is a list of the continuous weather broadcasts:

<i>Location</i>	<i>Call Sign</i>	<i>Freq (MHz)</i>
-----------------	------------------	-------------------

ATLANTIC AND GULF OF MEXICO COASTS

Me. "sworth	KEG-93	162.40
Me. ...land	KDO-95	162.55
Mass. Boston	KHB-35	162.40
Mass. Hyannisport (Cape Cod)	KEC-73	162.55
RI. Providence	WXJ-39	162.40
Conn. New London	KHB-47	162.40
N.Y. New York	KWO-35	162.55
N.J. Atlantic City	KHB-38	162.40
D.C. Washington	KHB-36	162.55
Md. Baltimore	KEC-83	162.40
Md. Salisbury (Eden)	KEC-92	162.40
Va. Norfolk	KHB-37	162.55
N.C. New Bern	KEC-84	162.40
N.C. Cape Hatteras	KIG-77	162.55
N.C. Wilmington	KHB-31	162.55
S.C. Myrtle Beach	KEC-95	162.40
S.C. Charleston	KHB-29	162.55
S.C. Beaufort	WXJ-23	162.475
Ga. Savannah	KEC-85	162.40
Fla. Jacksonville	KHB-39	162.55
Fla. Daytona Beach	KIH-26	162.40
Fla. West Palm Beach	KEC-50	162.40
Fla. Miami	KHB-34	162.55
Fla. Key West	KIH-25	162.40
Fla. Tampa	KHB-32	162.55
Fla. Tallahassee	KIH-24	162.40
Fla. Panama City	KGG-67	162.55
Fla. Pensacola	KEC-86	162.40
Ala. Mobile	KEC-61	162.55
Miss. Gulfport	KIH-21	162.55
La. New Orleans	KHB-43	162.55
La. Lake Charles	KHB-42	162.55
La. Morgan City	KIH-23	162.55
La. Baton Rouge	KHB-46	162.40
Tex. Galveston	KHB-40	162.55
Tex. Houston	KGG-68	162.40
Tex. Corpus Christi	KHB-41	162.55
Tex. Brownsville	KHB-33	162.55

PACIFIC COAST AND ALASKA

Alaska	Ketchikan	WXJ-26	162.55
Alaska	Juneau	WXJ-25	162.55
Alaska	Homer	WXJ-24	162.40
Alaska	Anchorage	KEC-43	162.55
Alaska	Steward (0630-2000 Local Time)	KEC-81	162.55
Wash.	Neah Bay	KIH-36	162.55
Wash.	Seattle (Antenna on Green Mt. near Bremerton)	KHB-60	162.55
Oreg.	Newport	KIH-33	162.55
Oreg.	Astoria	KEC-91	162.40
Oreg.	Brookings	KIH-37	162.55
Oreg.	Portland (Antenna in West Portland Hills)	KIG-98	162.55
Calif.	Eureka (Antenna on Mt. Pierce)	KEC-82	162.40
Calif.	Point Arena	KIH-30	162.40
Calif.	San Francisco (Antenna on Mt. Pise)	KHB-49	162.55
Calif.	Sacramento (Antenna on Jackson Butte)	KEC-57	162.40
Calif.	Monterey (Antenna near Almaden)	KEC-49	162.40
Calif.	Los Angeles (Antenna on Mt. Wilson)	KWO-37	162.55
Calif.	San Diego (Antenna on Mt. Woodson)	KEC-62	162.40

HAWAIIAN ISLANDS

Oahu (On Mt. Kaala, 4060 ft. m.s.l.)	KBA-99	162.55
Kauai (Kokee, 3750 ft. m.s.l.)	KBA-99	162.40
Maui (On Mt. Haleakala, 10025 ft. m.s.l.)	KBA-99	162.40
Hawaii (On Kulani Cone, 5500 ft. m.s.l.)	KBA-99	162.55

GREAT LAKES

N.Y.	Rochester	KHA-53	162.40
N.Y.	Buffalo	KEB-98	162.55
Pa.	Erie	KEC-58	162.40
Ohio	Akron	KDO-94	162.40
Ohio	Cleveland	KHB-59	162.55
Ohio	Sandusky	KHB-97	162.40
Mich.	Detroit	KEC-63	162.55
Mich.	Clio	KIH-29	162.40
Mich.	Alpena	KIG-83	162.55
Mich.	Sault Ste. Marie	KIG-74	162.55
Wisc.	Green Bay	KIG-65	162.55
Mich.	Grand Rapids	KIG-63	162.55
Wisc.	Milwaukee	KEC-60	162.40
Ill.	Chicago	KWO-39	162.55
Mich.	Marquette	KIG-66	162.55
Minn.	Duluth	KIG-64	162.55
Mich.	Traverse City	KIH-22	162.475

GREAT LAKES WEATHER BROADCASTS

SCHEDULED WEATHER BROADCASTS

CODED FORECASTS (MAFOR)

(Year Round Schedule)

These coded forecasts contain Gale and Storm Warnings when they are in effect. The forecasts are prepared by National Weather Service Forecast Offices in Chicago (Lakes Superior and Michigan), Detroit (Lakes Huron and St. Clair), Cleveland (Lake Erie), and Buffalo (Lake Ontario).

<i>City</i>	<i>Radio Station</i>	<i>Freq. (channel)</i>	<i>Time (E.S.T.)</i>
Lorain, OH	WMI	26, 57, 82, 96	6:02 and 12:02 a.m. and p.m. (Ch. 96 not used at 12:02 a.m.)
Rogers City, MI	WLC	26, 57, 82	6:12 and 12:12 a.m. and p.m. (Ch. 96 not used at 12:12 and 6:12 a.m.)
Tawas City, MI (Slave Station)	WLC	26	do.
Charlevoix, MI (Slave Station)	WLC	26	do.
Sturgeon Bay, WI	KVY-604	87	6:02 and 12:02 a.m. and p.m.
Port Washington, WI	WAD	85	do.
Grand Marais, MI	KVY-603	28	6:02 and 12:02 a.m. and p.m.
Copper Harbor, MI	KVY-602	84	do.
Duluth, MN	WAS	26	do.

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GREAT LAKES WEATHER DATA BROADCASTS (LAWEB)

U.S. and Canadian Ship and coastal observations are broadcast by radiotelephone at 2:30 and 8:30 a.m. and p.m. E.S.T.

<i>City</i>	<i>Station</i>	<i>Frequency (channel)</i>
Lorain, OH.....	WMI	26, 57, 82, 96*
Sturgeon Bay, WI.....	KVY-604	87
Port Washington, WI.....	WAD	85
Grand Marais, MI.....	KVY-603	28
Copper Harbor, MI.....	KVY-602	84
Duluth, MN.....	WAS	26

* Ch. 96 not used at 2:30 a.m. after Oct. 4

The LAWEB contains plain language reports of wind direction and speed (in knots) and wave heights from shore stations in the Lake Region and ships underway on the Lakes. Ships' positions are given in distance in miles and direction from well-known landmarks; visibility and weather are included in all reports when visibility is less than 5/8 of a mile. Observations are taken 1 1/2 hours prior to the time of broadcast. Broadcast material is compiled by National Weather Service Forecast Office, Cleveland.

GALE AND STORM WARNING BROADCASTS

COMMERCIAL MARINE RADIO STATIONS

All warnings are broadcast on Channel 16; Rogers City, MI (WLC) and Buffalo, NY (WBL) also broadcast warnings on Channel 51. Warnings are transmitted on receipt and at 2-hour intervals thereafter for a period of 5 hours, unless superseded or cancelled.

<i>City</i>	<i>Station</i>	<i>Broadcast Times (E.S.T.)</i>
Lorain, OH	WMI	On receipt and odd HH035
Rogers City, MI	WLC	On receipt and even HH045
Lawas City, MI (Slave)	WLC	do.
Charlevoix, MI (Slave)	WLC	do.
Sturgeon Bay, WI	KVY-604	On receipt and odd HH035
Port Washington, WI	WAD	do.
Grand Marais, MI	KVY-603	On receipt and odd HH035
Copper Harbor, MI	KVY-602	do.
Duluth, MN	WAS	do.

GALE AND STORM WARNING BROADCASTS

U.S. COAST GUARD RADAR STATIONS

On receipt of a message, announcement is made on Channel 16, followed by broadcast of the message on Channel 22.

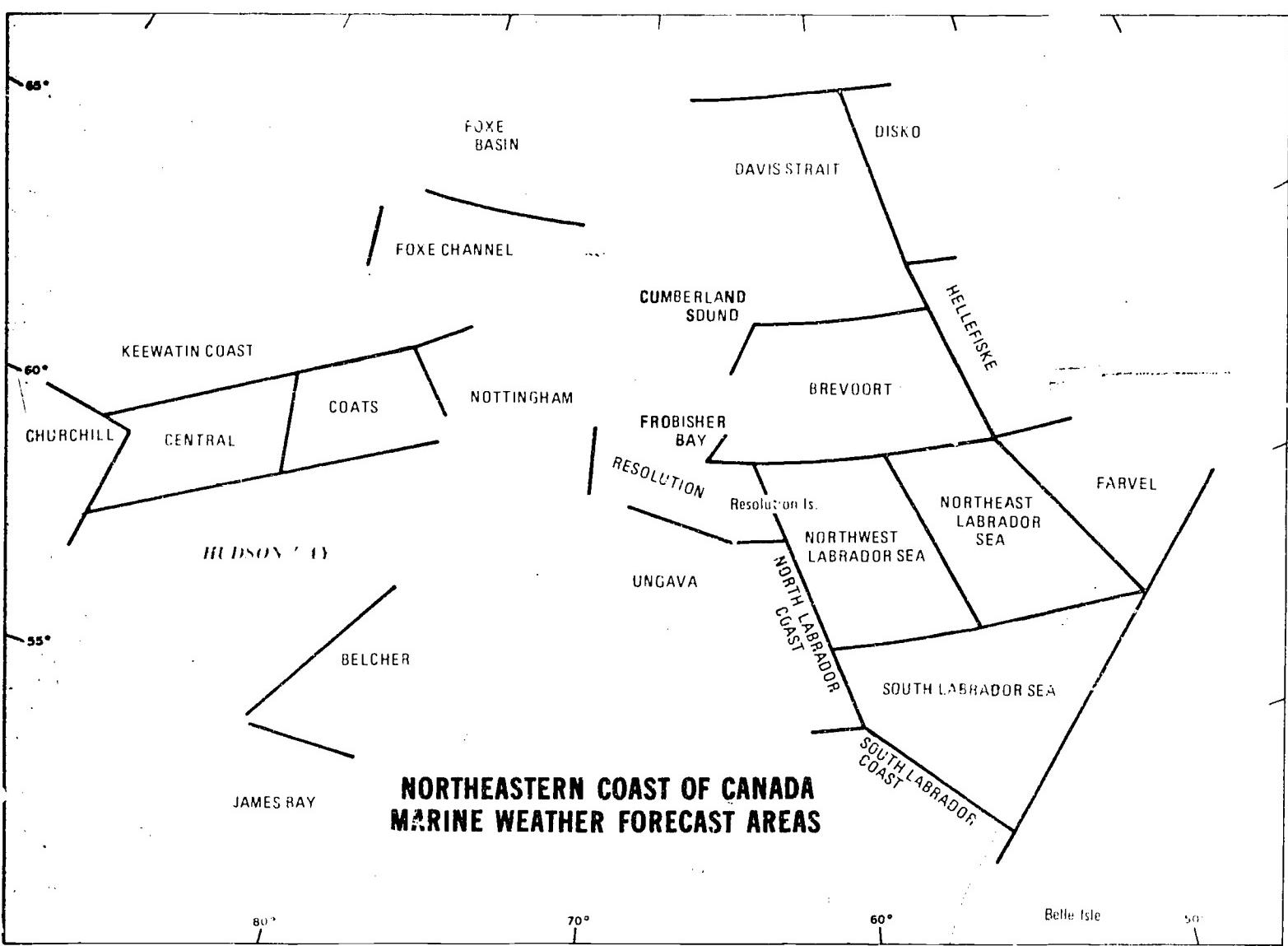
<i>City</i>	<i>Station</i>	<i>Broadcast Times (E.S.T.)</i>
Alexandria Bay, NY	NMD-35	On receipt and next odd HH035
Buffalo, NY*	NMD-47	On receipt and next regular broadcast
Sault Ste. Marie, MI	NOG	On receipt and next regular broadcast
Muskegon, MI	NMD-32	On receipt and next odd HH055
Milwaukee, WI	NMD-9	On receipt and next regular broadcast
Duluth, MN	NOG-14	do.
Detroit, MI	NMD-25	do.

RADIO FREQUENCY CHANNEL DESIGNATORS

Ch. 16 - 156.8 MHz	Ch. 22 - 157.1 MHz	Ch. 26 - 161.9 MHz	Ch. 28 - 162.0 MHz
Ch. 51 - 2182 kHz	Ch. 56 - 2670 kHz	Ch. 57 - 2514 kHz	Ch. 82 - 4415.8 kHz
Ch. 96 - 8783.2 kHz	Ch. 84 - 161.825 MHz	Ch. 85 - 161.875 MHz	Ch. 87 - 161.975 MHz

FIGURES (Marine Weather Forecast Areas)

- | | |
|------------|-----------------------------------------|
| FIGURE 1 | NORTHEASTERN COAST OF CANADA |
| FIGURE 2 | CANADA - ATLANTIC COAST |
| FIGURE 3 | UNITED STATES ATLANTIC AND GULF COASTS |
| FIGURE 3a | SENEGAL |
| FIGURE 4 | EASTERN NORTH ATLANTIC |
| FIGURE 4a | FRANCE |
| FIGURE 5 | MEDITERRANEAN SEA |
| FIGURE 6 | EGYPT |
| FIGURE 7 | BRAZIL |
| FIGURE 7a | ARGENTINA |
| FIGURE 8 | ANGOLA |
| FIGURE 9 | PORTUGUESE WEST AFRICA AND SOUTH AFRICA |
| FIGURE 10 | ALASKA |
| FIGURE 11 | CANADA - PACIFIC COAST |
| FIGURE 12 | UNITED STATES - PACIFIC COAST |
| FIGURE 13 | WESTERN NORTH PACIFIC |
| FIGURE 14 | SOUTHEAST ASIA |
| FIGURE 15 | THAILAND |
| FIGURE 16 | CHILE |
| FIGURE 17 | FRENCH POLYNESIA |
| FIGURE 18 | NEW CALEDONIA |
| FIGURE 19 | AUSTRALIA |
| FIGURE 19a | AUSTRALIA |
| FIGURE 20 | INDIAN OCEAN |
| FIGURE 21 | MADAGASCAR |
| FIGURE 22 | KENYA |
| FIGURE 23 | INDIA AND PAKISTAN |
| FIGURE 24 | ANTARCTIC |



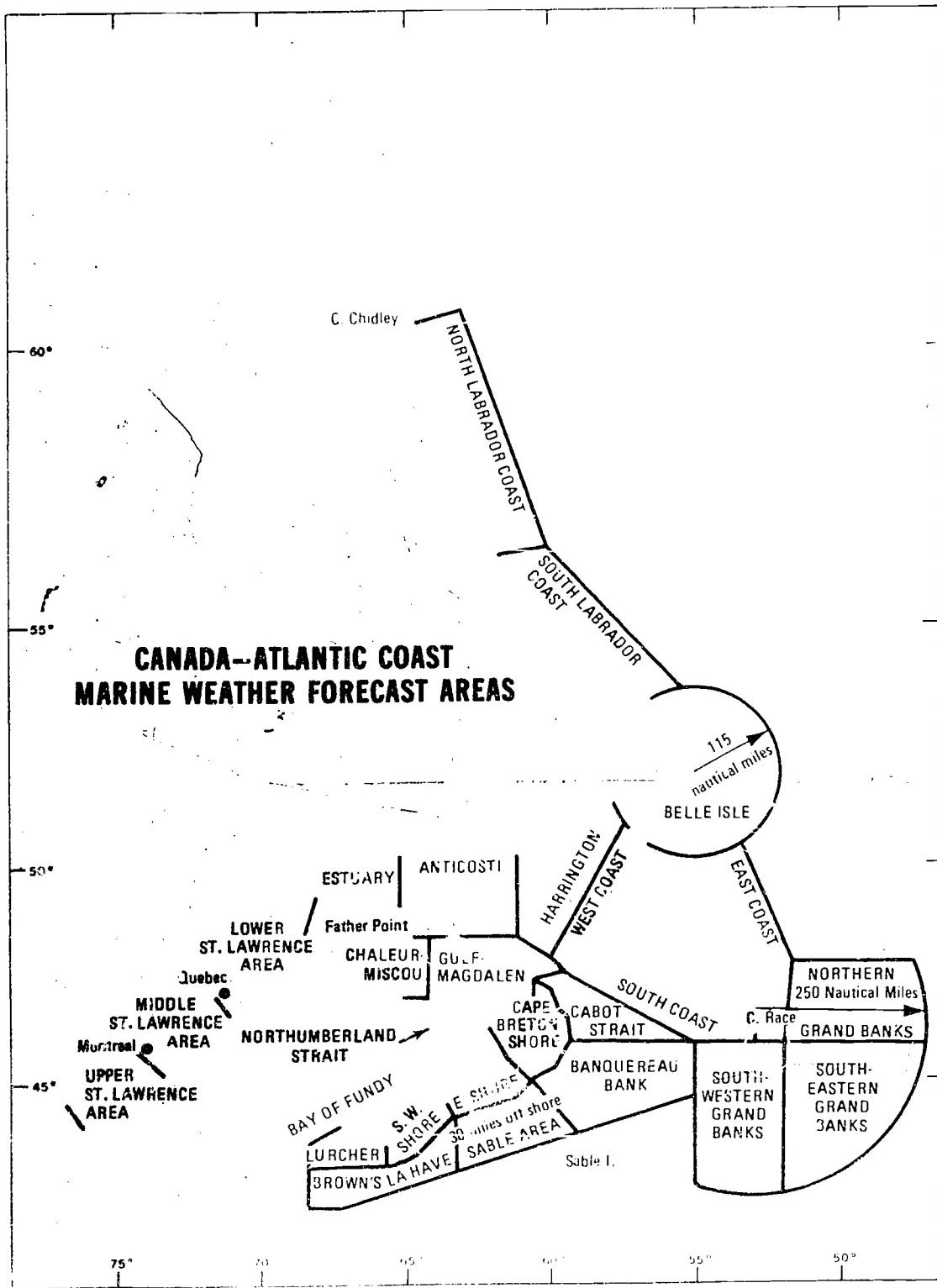
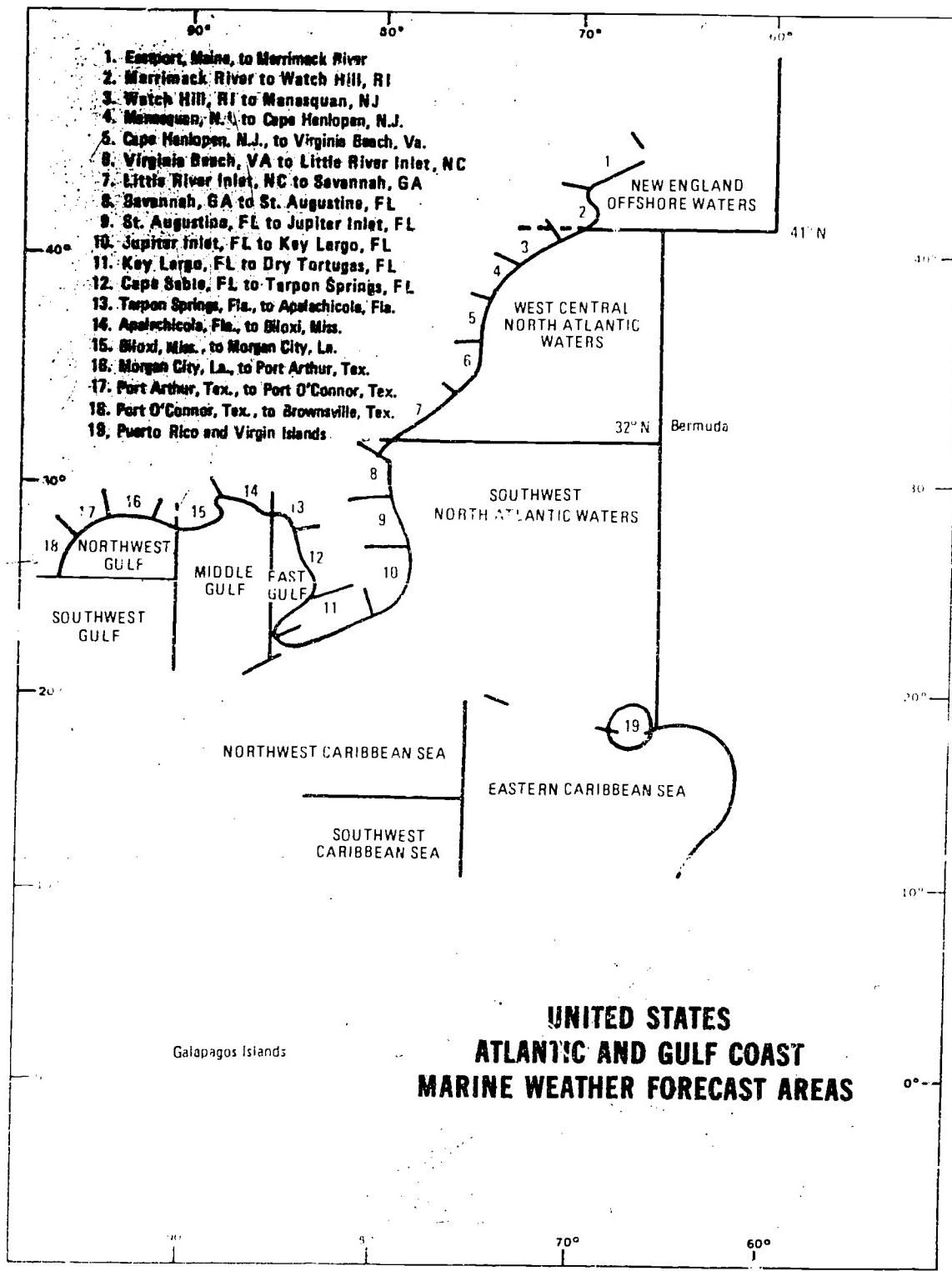


FIGURE 2



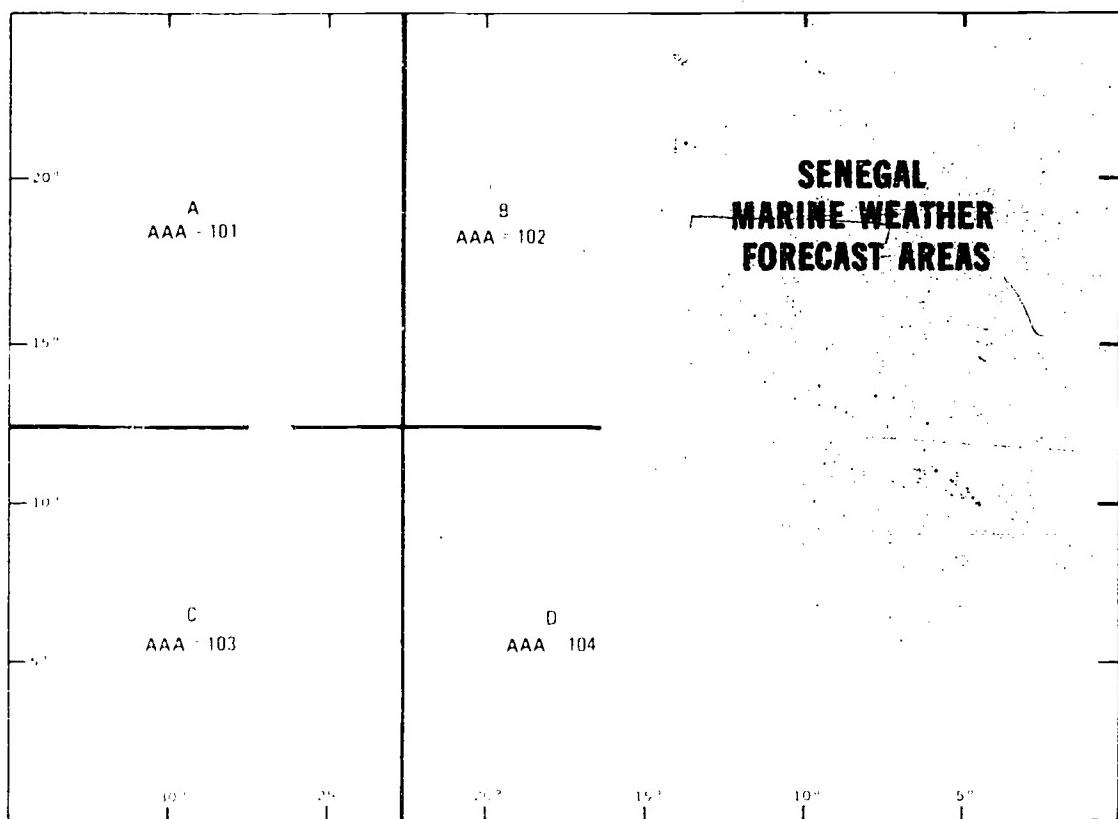


FIGURE 3A

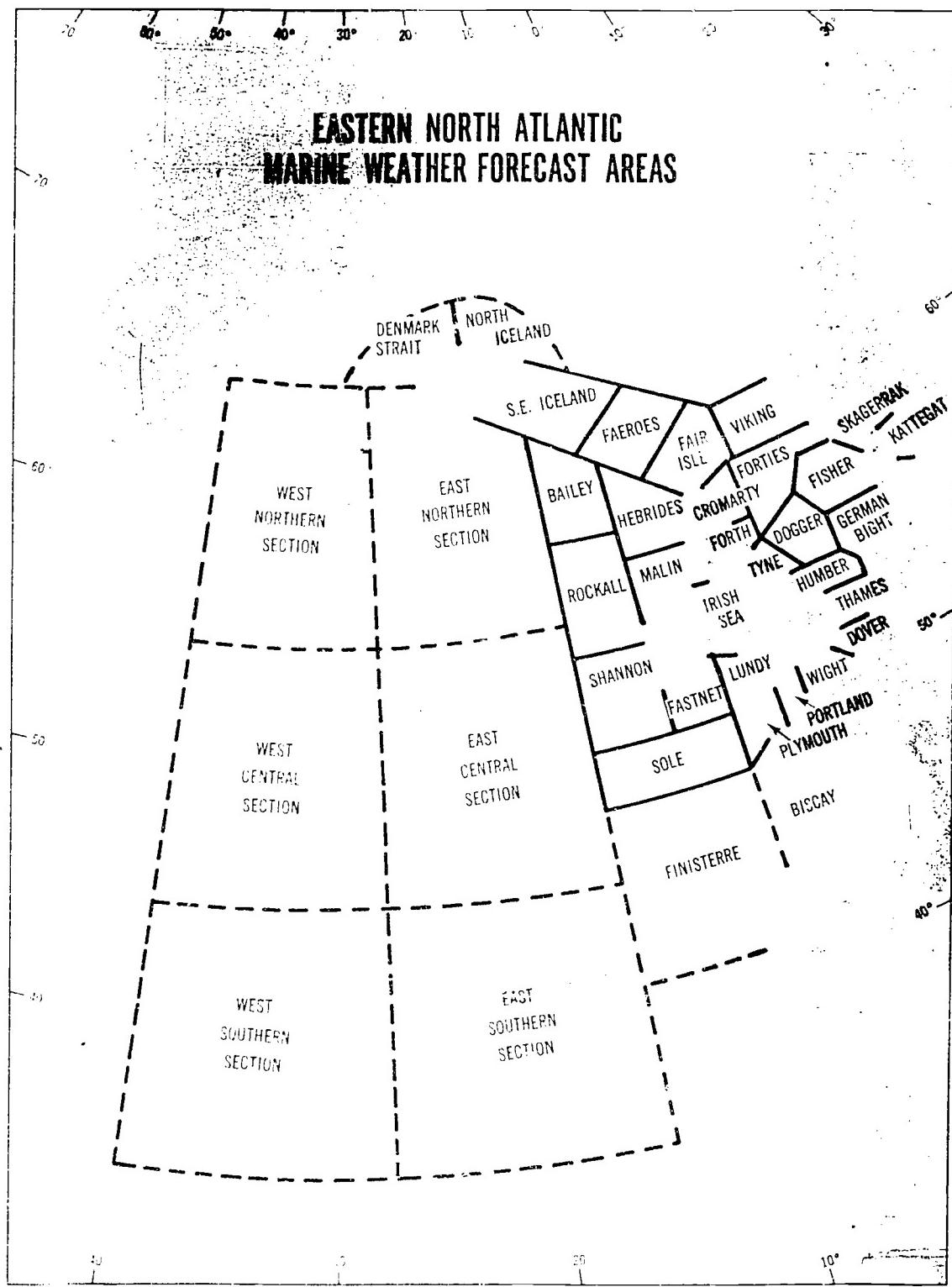


FIGURE 4

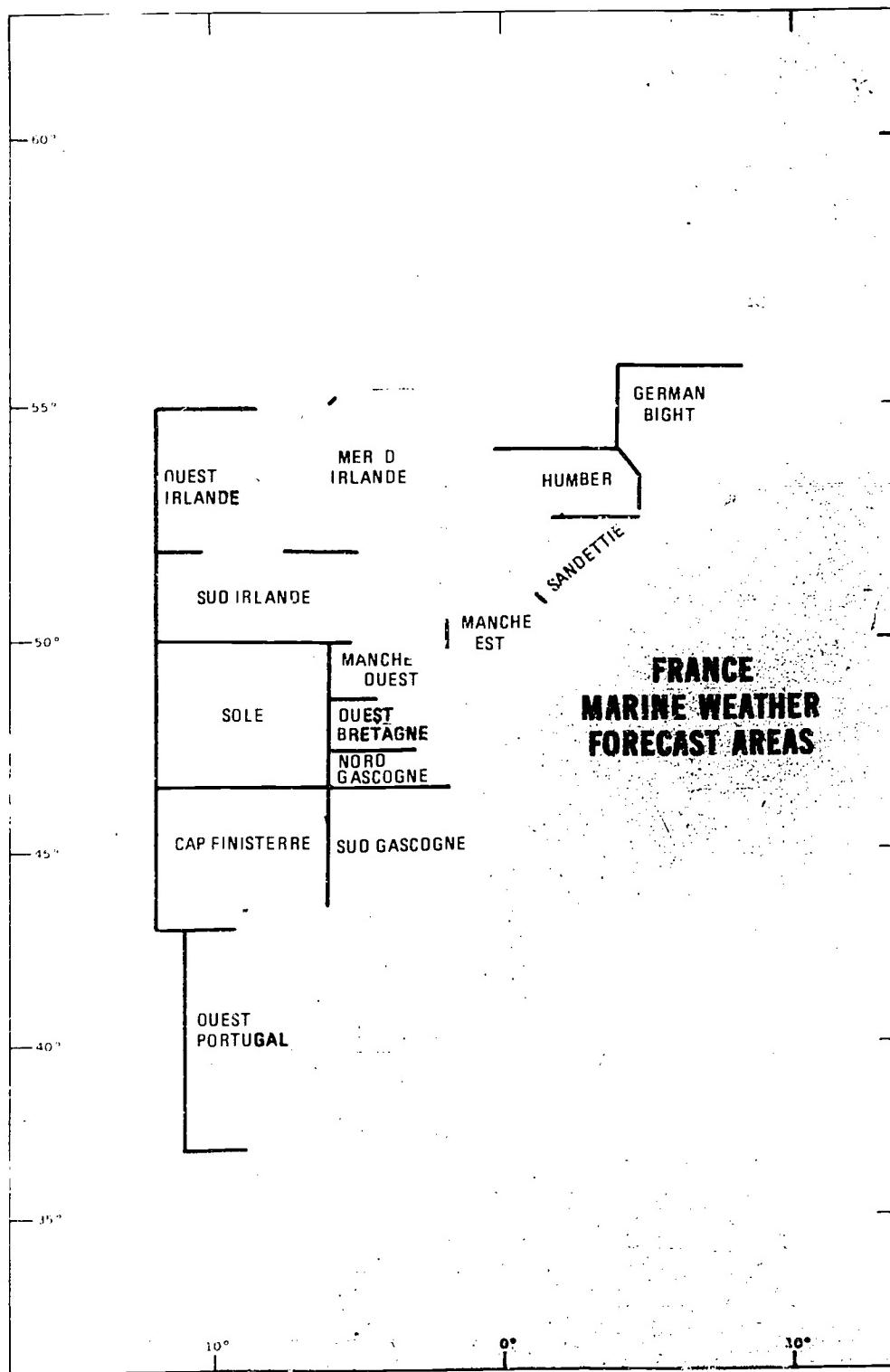
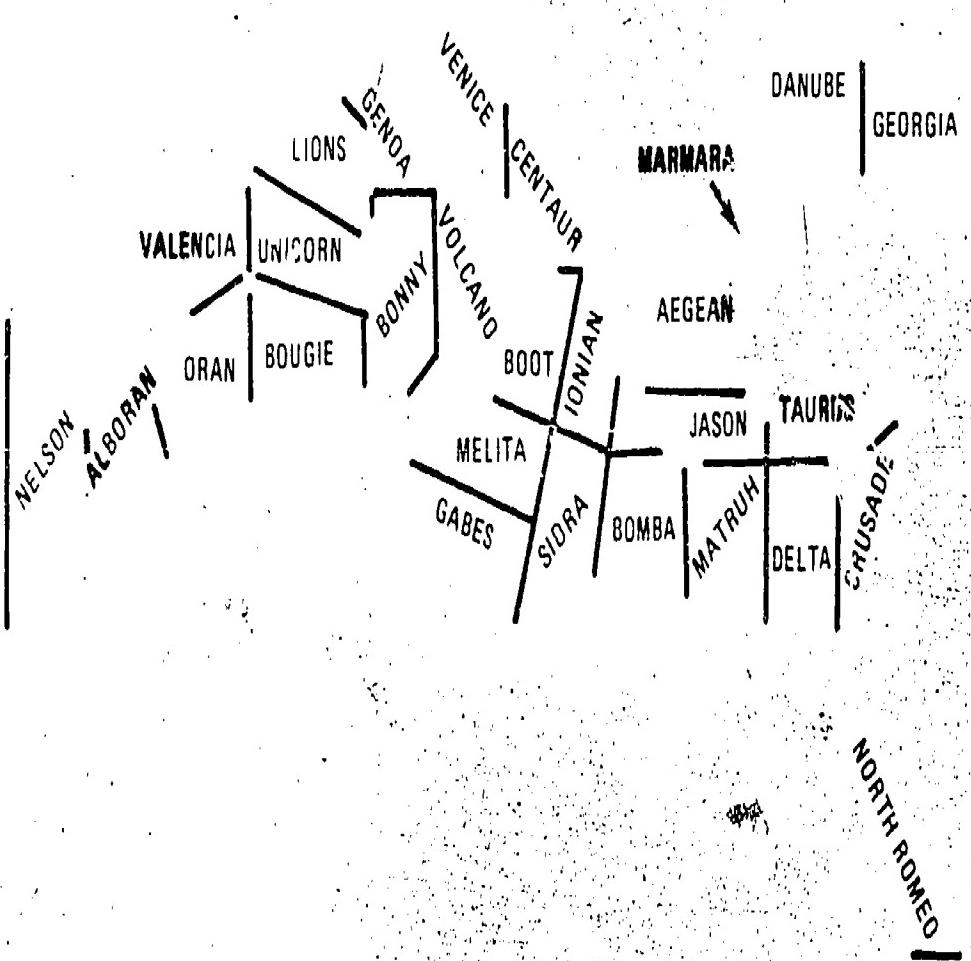
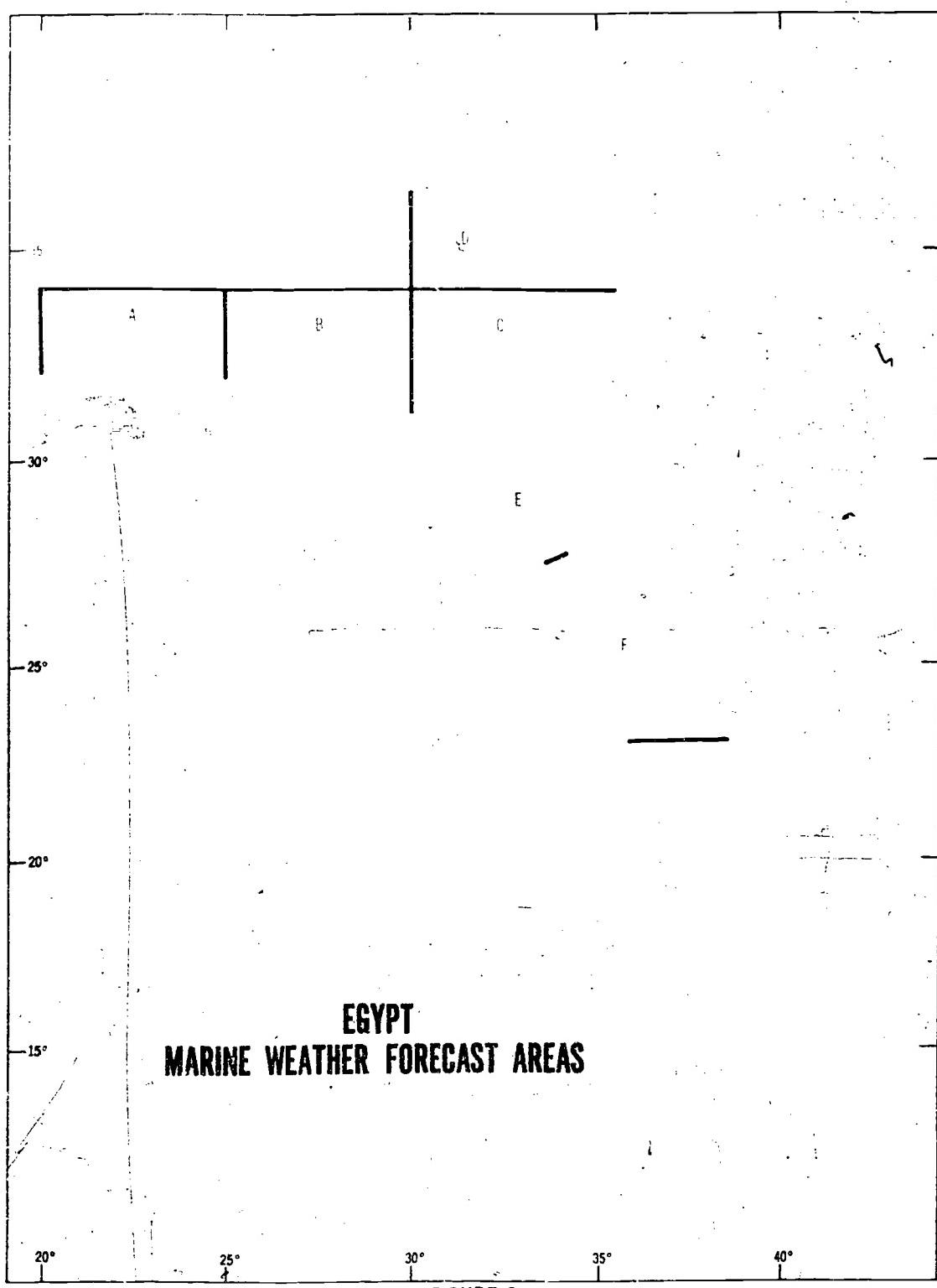


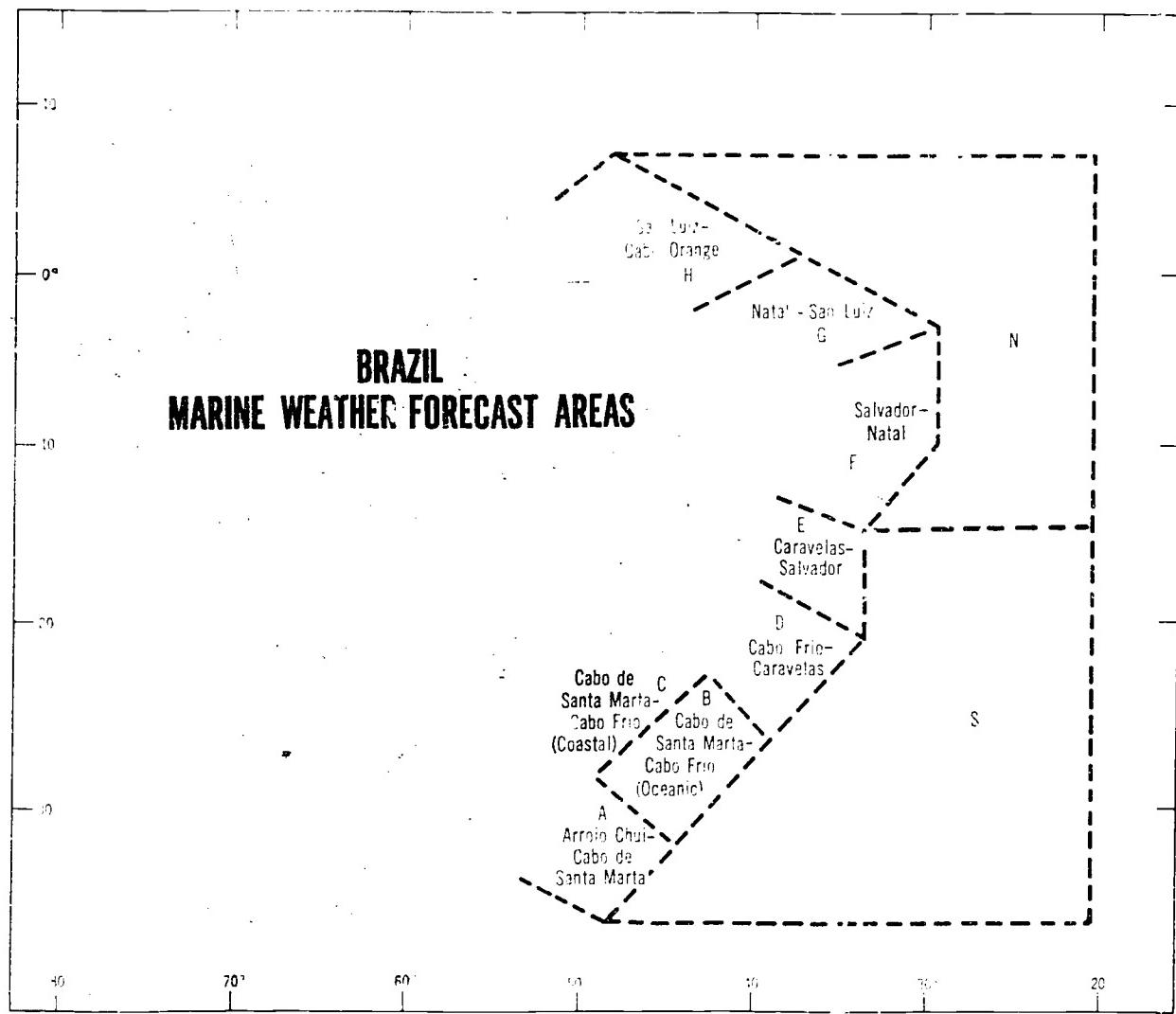
FIGURE 4A



MEDITERRANEAN SEA MARINE WEATHER FORECAST AREAS

FIGURE 5





ARGENTINA MARINE WEATHER FORECAST AREAS

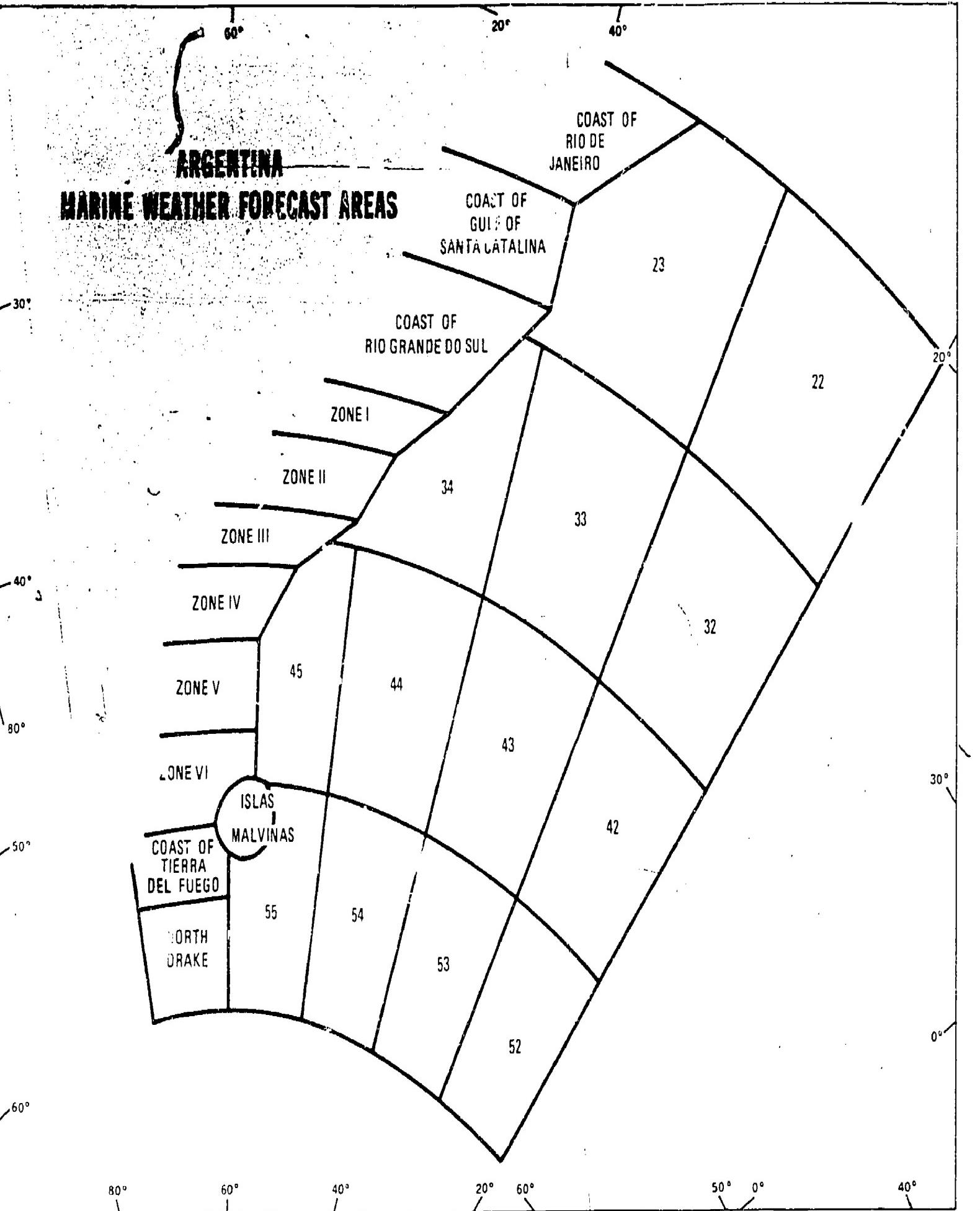


FIGURE 7A

GJ

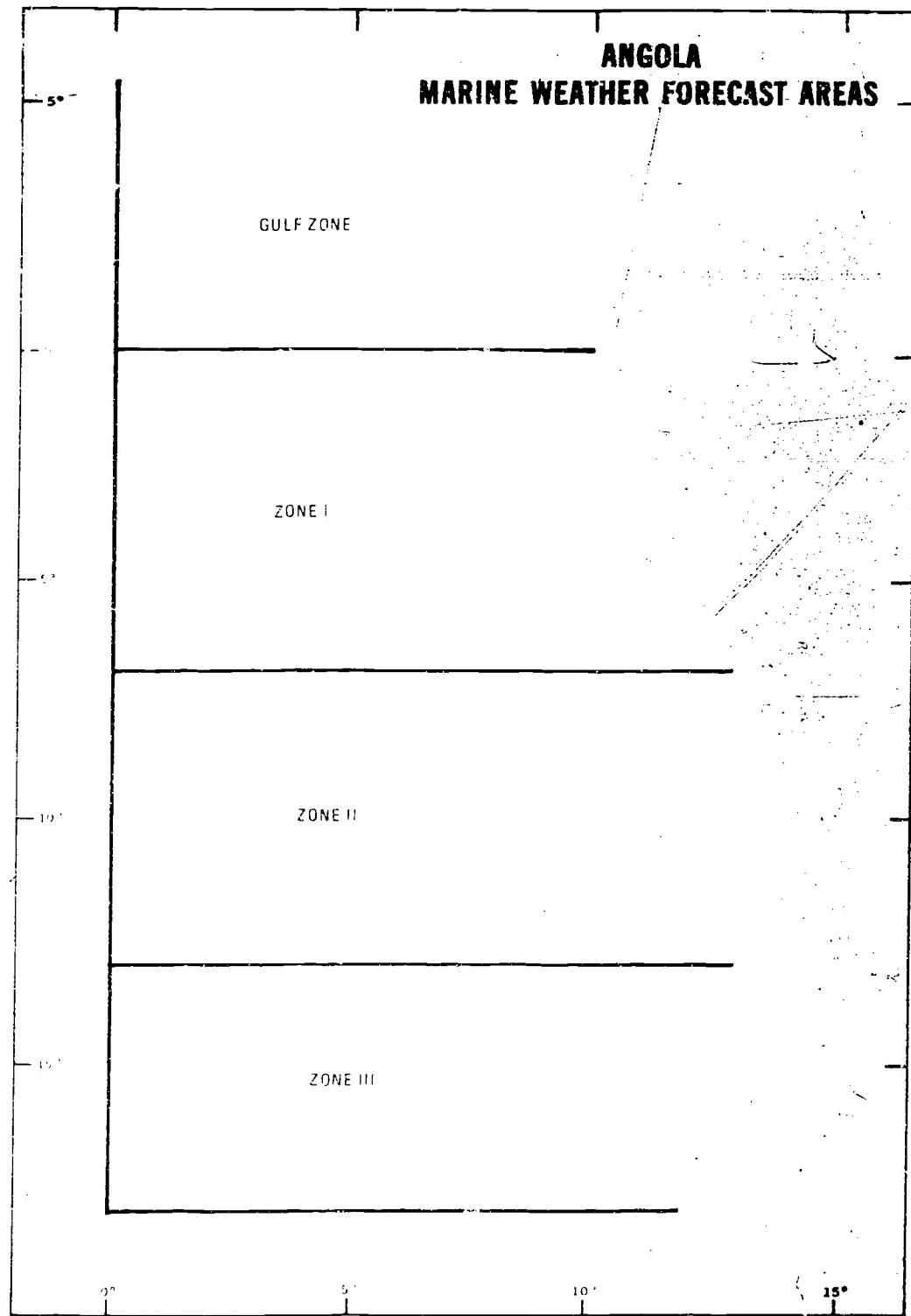
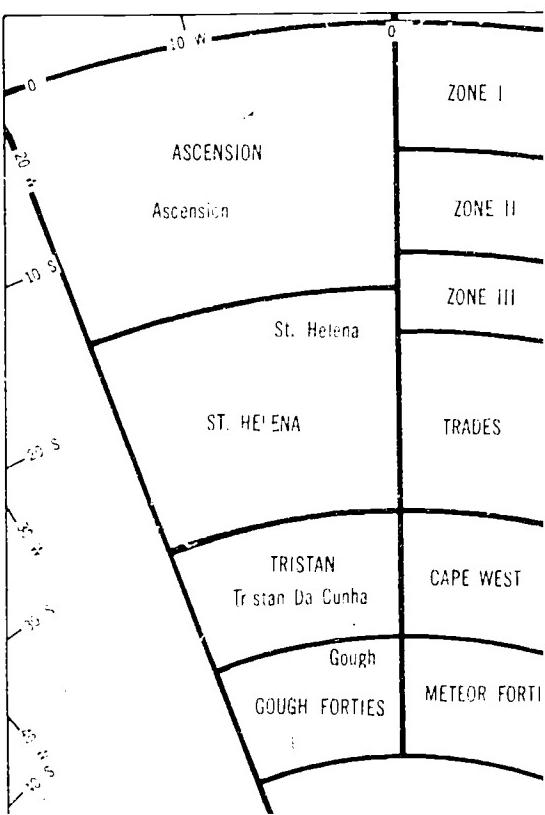
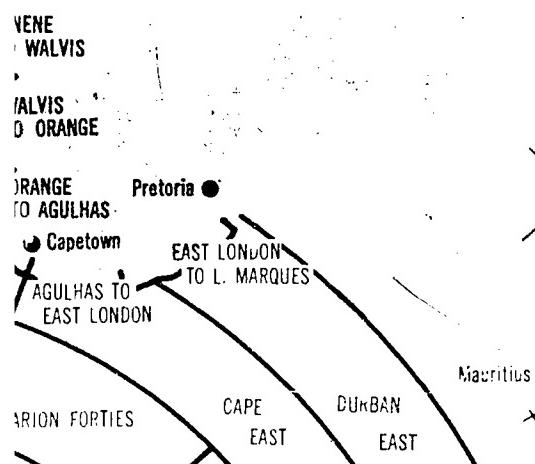


FIGURE 8

96



PORTUGUESE WEST AFRICA AND SOUTH AFRICA MARINE WEATHER FORECAST AREAS

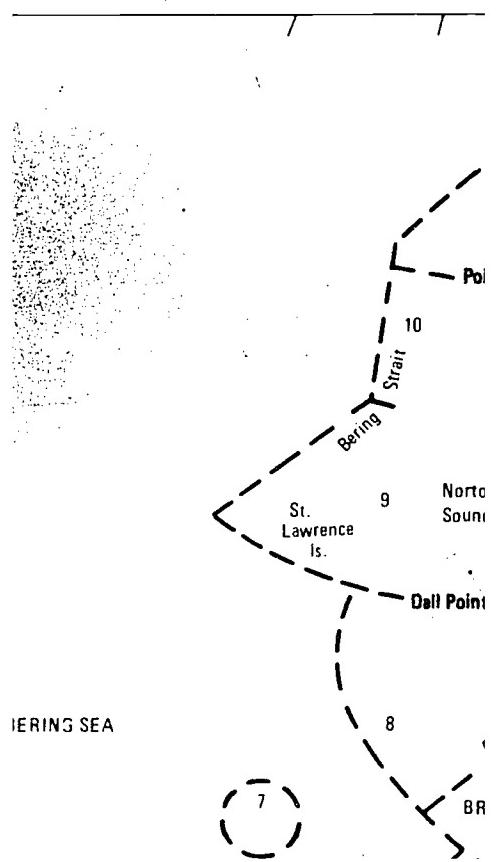


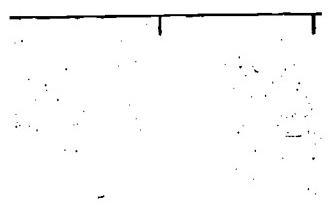


60°

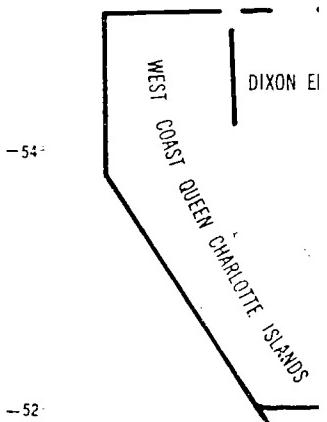


55°





- 56°



**CANADA
MARINE WE**

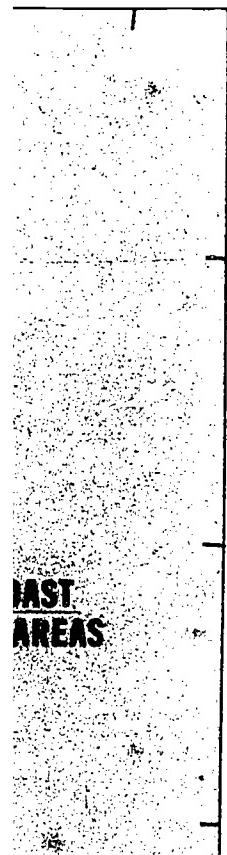
ENTRANCE

HECATE

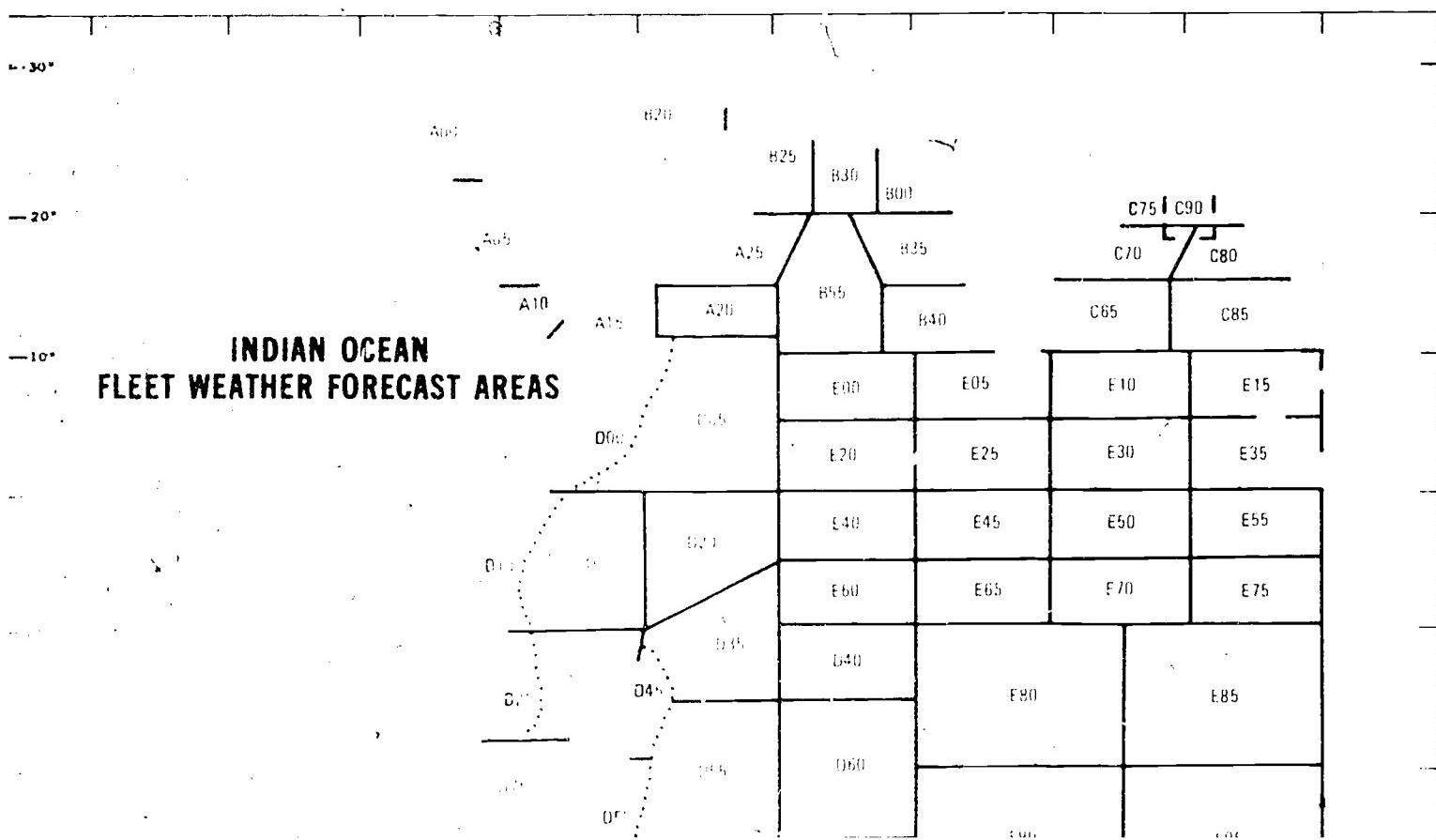
STRAIT

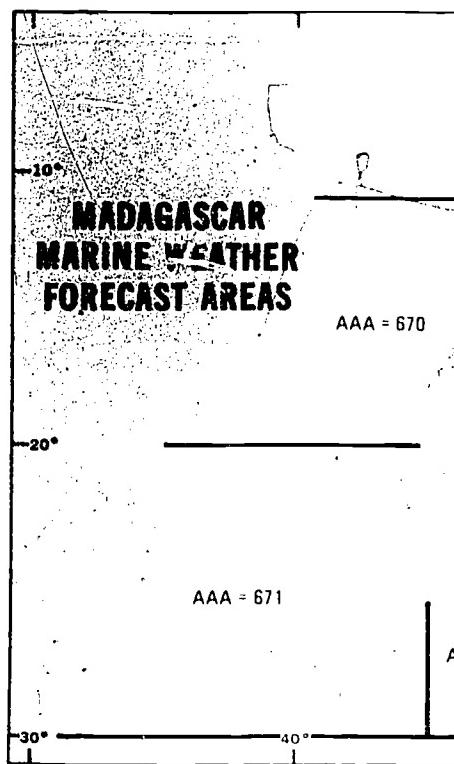
**IC COAST
RECAST AREAS**





**INDIAN OCEAN
FLEET WEATHER FORECAST AREAS**





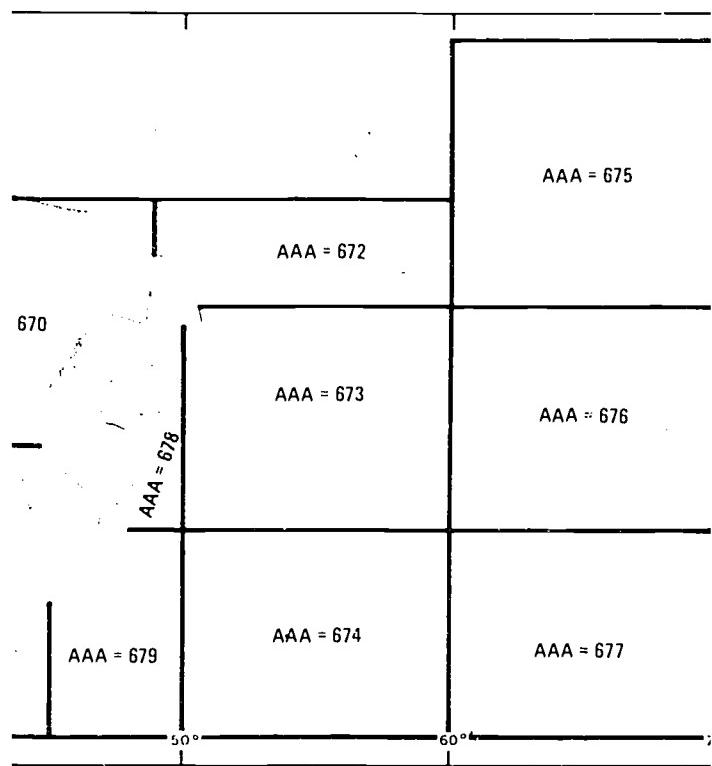
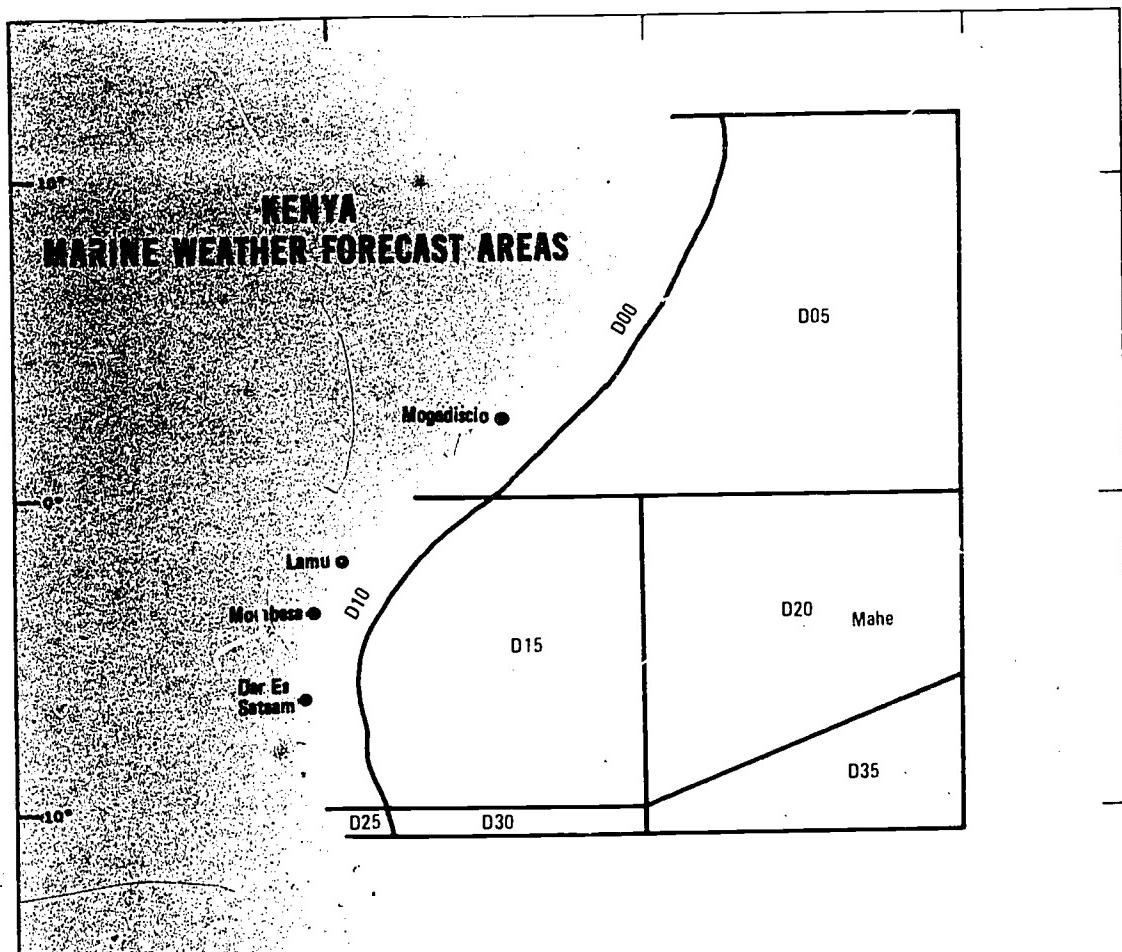
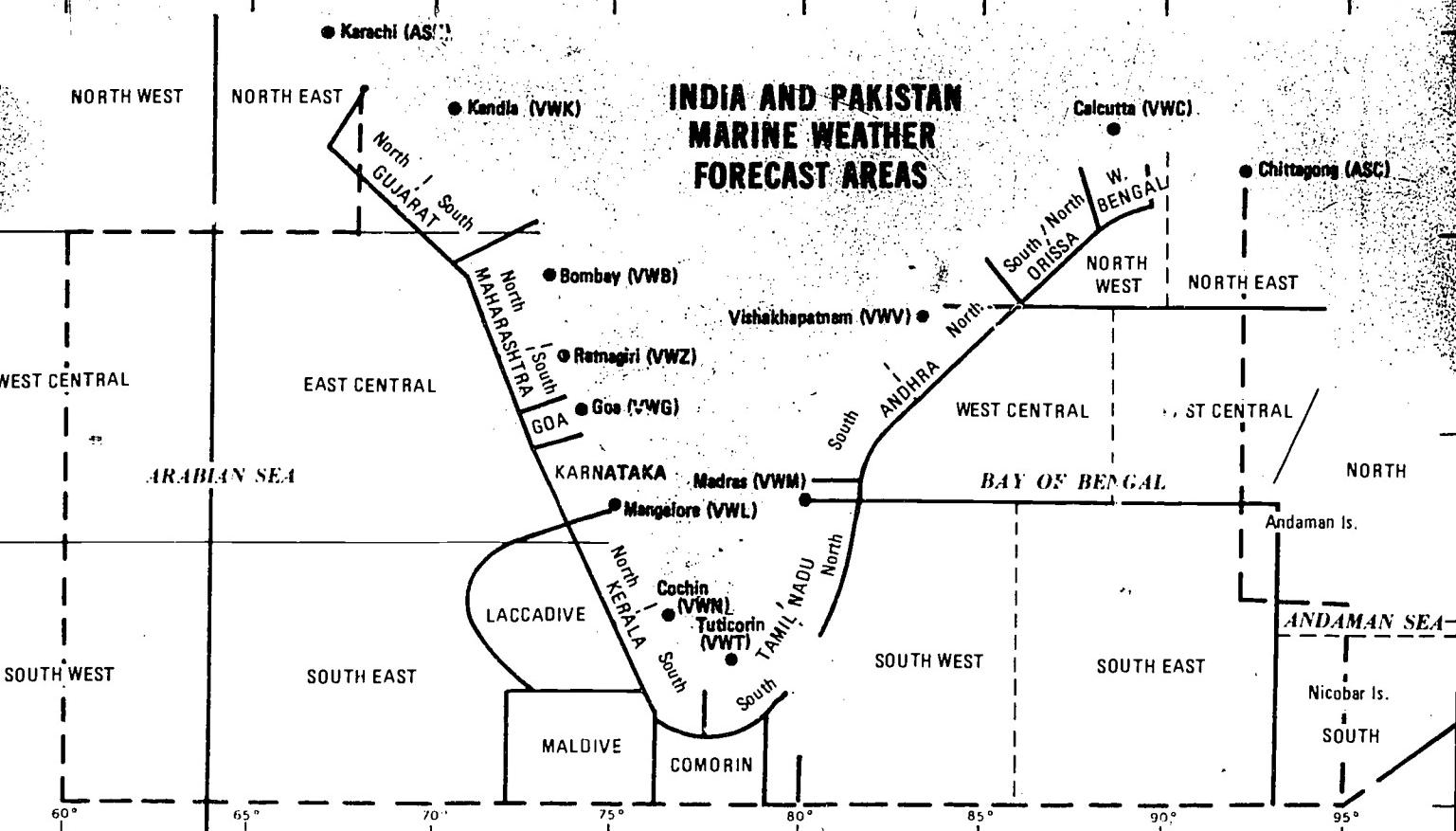
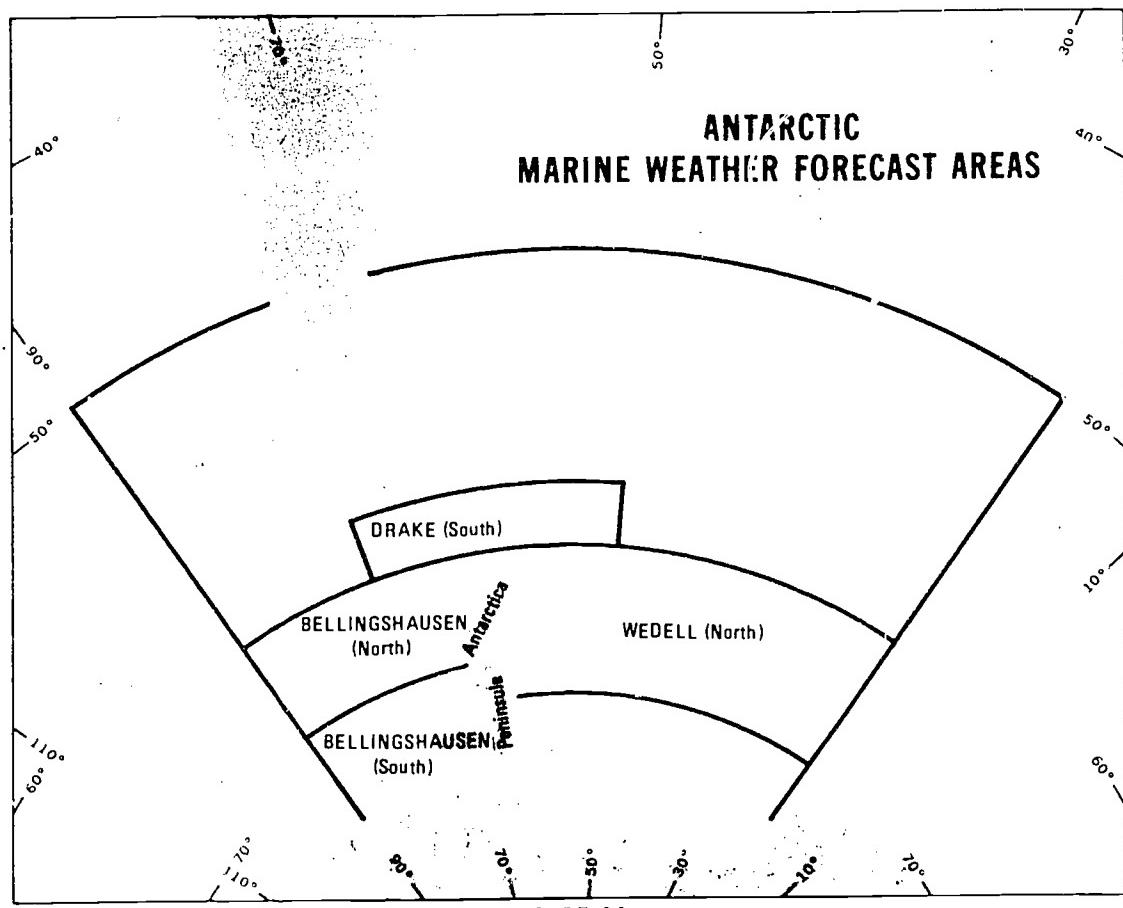


FIGURE 21



INDIA AND PAKISTAN MARINE WEATHER FORECAST AREAS





APPENDIX

Explanation of Terms Used in Sections 1 and 2 to Describe Message Contents

Analysis—Coded weather chart that shows pressure patterns and frontal systems over an area at a specified time.

Forecast—A statement describing weather and/or sea conditions expected in an area for a specified period of time in the future. (Usually 24 to 36 hours)

Ice Report—A statement giving information on ice conditions in coastal waters.

Prognosis—Coded weather chart that shows the expected pressure pattern for an area at a specified future time.

Synopsis—A verbal description of the most recent weather chart for an area, i.e., location and central pressure of high and low pressure centers, direction and speed of their movement, frontal systems, etc.

Synoptic Reports—Weather observation reports from land stations or ships.

Warnings—Gale, storm, or hurricane/typhoon warnings. Certain broadcasts also contain small-craft advisories. A description of each warning category follows:

SMALL-CRAFT ADVISORY (United States): The threshold conditions are usually 18 knots of wind (less than 18 knots in some dangerous waters) or hazardous wave conditions.

GALE WARNING: A warning to indicate that winds within the range 34 to 47

INTERPRETATION OF RADIOFACSIMILE WEATHER CHARTS

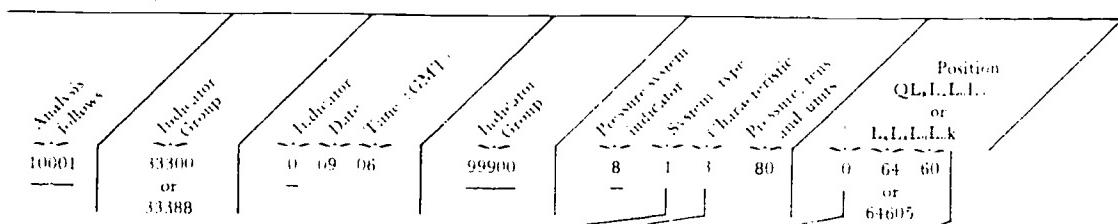
The radiofacsimile weather charts listed in section 3 are surface charts. Most of the analyses and prognoses will be similar to hand-plotted surface weather charts. However, some surface charts represent an attempt to present the weather pattern in a more descriptive way; in terms of the weather recognized by the mariner. The low-latitude charts transmitted by Radio NMC, San Francisco are a good example of this trend. On these charts, the sea-level pressure pattern has been replaced with streamlines depicting the direction of the wind. There is notation of wind speed and areas of significant weather and high waves. Centers of high and low pressure and frontal systems are also shown.

The following table explains the symbols and notation commonly used on radiofacsimile weather charts.

SYMBOLS FOR FRONTS, CONVERGENCE LINES, ETC.	
	COLD FRONT AT THE SURFACE
	COLD FRONT ABOVE THE SURFACE
	WARM FRONT AT THE SURFACE
	WARM FRONT ABOVE THE SURFACE
	OCCLUDED FRONT AT THE SURFACE
	OCCLUDED FRONT ABOVE THE SURFACE
	QUASI-STATIONARY FRONT AT THE SURFACE
	QUASI-STATIONARY FRONT ABOVE THE SURFACE
	CONVERGENCE LINE
	INTER-TROPICAL CONVERGENCE ZONE
NOTE: THE SEPARATION OF THE TWO LINES GIVES A QUALITATIVE REPRESENTATION OF THE WIDTH OF THE ZONE. THE HATCHED LINES MAY BE ADDED TO INDICATE AREAS OF ACTIVITY.	
AN ARROW INDICATES THE EXPECTED DIRECTION OF MOVEMENT OF A FRONT AND NEXT TO THE ARROW THE EXPECTED SPEED OF MOVEMENT (IN KNOTS) IS GIVEN.	
SYMBOLS FOR SIGNIFICANT WEATHER	
	THUNDERSTORM
	TROPICAL REVOLVING STORM (HURRICANE, TYPHOON, ETC.)
	SEVERE LINE SQUALL
SYMBOLS FOR TYPES OF AIR MASSES	
cA	ARCTIC, CONTINENTAL
mA	ARCTIC, MARITIME
cP	POLAR, CONTINENTAL
mP	POLAR, MARITIME
cT	TROPICAL, CONTINENTAL
mT	TROPICAL, MARITIME

**DECODE FOR SURFACE ANALYSIS MESSAGES RECEIVED IN THE
INTERNATIONAL ANALYSIS CODE, IAC FLEET, FM 46.D**

Abbreviated sample of an analysis message



P _r - Pressure type	P _r Pressure characteristics	Q Octant of globe	k Indicator used to specify half-degrees
0 Complex low	0 No specification	0 0 - 90 W	0 Take L ₁ ,L ₂ ,L ₃ ,L ₄ as sent
1 Low	1 LOW filling or HIGHL	1 90 W - 180	1 Add ½ degree to L ₁ ,L ₂ east long. (0°-99°)
2 Secondary weakening	2	2 180 - 90 E	2 Add ½ degree to L ₃ ,L ₄ or
3 Trough	3 Little change	3 90 E - 0	3 Add ½ degree to L ₁ ,L ₂ & L ₃ ,L ₄ west long. (100°-180°)
4 Wave	4 LOW deepening or		4 See note below
5 High	5 HIGH intensifying	5 0 - 90 W	5 Take L ₁ ,L ₂ ,L ₃ ,L ₄ as sent
6 Area of uniform pressure	6 Complex	6 90 W - 180	6 Add ½ degree to L ₁ ,L ₂ west long. (0°-99°)
7 Ridge suspected	7 Forming or existence	7 180 - 90 E	7 Add ½ degree to L ₃ ,L ₄ or
8 Col	8	8 90 E - 0	8 Add ½ degree to L ₁ ,L ₂ & L ₃ ,L ₄ east long. (100°-180°)
9 Tropical storm	9 Filling or weakening but not disappearing		9 See note below
	7 General rise		Note: When k = 4 or 9, the values of L ₁ ,L ₂ and L ₃ ,L ₄ are accurate to the nearest whole degree only. For all other values of k, the accuracy is to the nearest one-half degree.
	8 General fall		
	9 Position doubtful		



GENERAL INFORMATION

Indicator groups and figures shown with heavy underscoring always appear in coded analysis messages. Additional latitude and longitude groups follow in the messages to indicate the points through which fronts and isobars should be drawn. In analysis messages, isobars are usually given for 8-millibar intervals. Intermediate isobars can then be sketched to complete the pattern.

Indicator Groups

- 33300 Positions in form $L_aL_aL_aL_a$, in northern hemisphere (L_aL_a = latitude; L_aL_a = longitude; k is used to specify the half-degrees, if any, to be added to L_aL_a or L_aL_a)
- 33388 Positions in form $QL_aL_aL_aL_a$ (Q = Octant of the globe)
- 99900 Pressure systems follow
- 99911 Frontal systems follow
- 99922 Isobar section follows

Indicator Figures

- 0 — Indicator for date and time group
- 8 — Indicator for pressure system group
- 44 — Indicator for isobar group
- 66 — Indicator for frontal system group

DECODE FOR GREAT LAKES AND SEAWAY MARINE FORECASTS

MAFOR YYG₁G₁ (NAME OF LAKE) 1GDF_mW₁

KEYWORD <i>(Indicating Marine Forecast)</i>	DAY OF MONTH (GMT)	TIME (GMT) FORECAST PERIOD BEGINS	SOLIDUS	NAME OF LAKE OR SEAWAY*	GROUP INDICATOR	FORECAST PERIOD	WIND DIRECTION	WIND SPEED	FORECAST WEATHER	HEIGHT OF WAVES OF THE MESSAGE F FOR THE ENTIRE PI
	YY	G ₁ G ₁	/			G	D	F _m	W ₁	
MAFOR	06	12	/	SUPERIOR*	I	6	8	3	0	WAVES 5 TO

G FORECAST PERIOD	
0 Condition at beginning of forecast period	
1 Valid for 3 hours	
2 Valid for 6 hours	
3 Valid for 9 hours	
4 Valid for 12 hours	
5 Valid for 18 hours	
6 Valid for 24 hours	
7 Valid for 36 hours	
8 Valid for 72 hours	
9 Occasionally	

D WIND DIRECTION	
0 - Calm	
1 - Northeast	
2 - East	
3 - Southeast	
4 - South	
5 - Southwest	
6 - West	
7 - Northwest	
8 - North	
9 - Variable	

F _m WIND SPEED	
0 - 0 to 10 knots	
1 - 11 to 16 knots	
2 - 17 to 21 knots	
3 - 22 to 27 knots	
4 - 28 to 33 knots	
5 - 34 to 40 knots	
6 - 41 to 47 knots	
7 - 48 to 55 knots	
8 - 56 to 63 knots	
9 - 64 knots and above	

W ₁ - FORECAST WEATHER	
0 - Moderate or good visibility, more than 3 nautical miles	
1 - Risk of accumulation of ice on superstructures (Temp. 23° to 32° F.)	
2 - Strong risk, accumulation of ice on superstructures (Temp. below 23° F.)	
3 - Mist (visibility 3/8 to 3 nautical miles)	
4 - Fog (visibility less than 3/8 nautical miles)	
5 - Drizzle	
6 - Rain	
7 - Snow, or rain and snow	
8 - Squally weather with or without showers	
9 - Thunderstorms	

*Statement in plain language of Gale or Storm warnings, if any, will follow name of lake or seaway. Small-Craft Advisories are not included in MAFOR broadcasts. Time of warnings are in Eastern Standard Time (EST).

The forecast 1GDF_mW₁ may be repeated as many times as necessary to describe the changes in wind and weather expected in a

group 1GDF_mW₁ (G = 1-8). Any forecast 1GDF_mW₁ (G = 1-8) may be followed by 1GDF_mW₁ (G = 9); in such cases, G = 9 indicates a phenomenon forecast to occur occasionally in the forecast period. On occasion, plain language words are used to describe weather conditions not easily described by the code tables; these are stated in EST.

Waves forecast indicating the wave height, height of the wave

EXAMPLE OF MAFOR BROADCAST

Message

MAFOR 1512/ SUPERIOR 12320 14336 12630
 WAVES 5 TO 10 FEET
 MICHIGAN 12420 19759 15630
 WAVES 5 TO 10 FEET BRIEFLY 15 FEET WITH
 THUNDERSTORMS
 HURON 10436 12746 15730
 WAVES INCREASING RAPIDLY TO 15 FEET
 DECREASING AFTER 1200 EST TO 8 FEET

Decode

Lake Superior—During first 6 hours, southeasterly winds 17 to 21 knots, moderate or good visibility. During the next following 12 hours, southeasterly winds 22 to 27 knots, rain. During the final 6 hours, westerly winds 22 to 27 knots, moderate or good visibility.

Lake Michigan—During first 6 hours, southerly winds 17 to 21 knots, moderate or good visibility, occasional thunderstorms accompanied by northwesterly winds 34 to 40 knots. During the next following 18 hours, westerly winds 21 to 27 knots, moderate or good visibility.

Lake Huron—At beginning of forecast period, southerly winds 22 to 27 knots, rain. Within an hour or so after beginning of forecast period and continuing for remainder of first 6-hour period, winds northwesterly 28 to 33 knots, rain. During the final 18 hours northwesterly winds 17 to 21 knots, moderate or good visibility.

SURFACE REPORT CODES

FM 11.E — Surface report from land station:

Hjjj	Nddft	VVwwW	PPPFT	N _b C _t hC _M C _H
T _d T _{dh} p _{hp}				

FM 21.E — Surface report from ship, in full form:

**LIST OF TERMS USED IN MARINE WEATHER BROADCASTS
(ENGLISH, FRENCH AND SPANISH)**

ENGLISH	FRANCAIS	ESPAÑOL
List of terms used in weather bulletins for shipping	Liste des termes utilisés dans les bulletins météorologiques destinés à la navigation maritime	Lista de los términos usados en los boletines meteorológicos destinados a la navegación marítima
1	2	3
<u>Standards of time</u>	<u>Unité de temps</u>	<u>Unidades de tiempo</u>
Greenwich Mean Time (GMT)	Temps moyen de Greenwich (TMG)	Hora media de Greenwich (TMG)
Standard time	Temps universel	Hora universal
Zone time	Heure du fuseau	Hora del huso
Summer time	Heure d'été	Hora de verano
Local time	Heure locale	Hora local
<u>Periods of time</u>	<u>Périodes de temps</u>	<u>Períodos de tiempo</u>
six hours	six heures	seis horas
twelve hours	douze heures	doce horas
	dix-sept heures	diez y ocho horas